# Guide to TSP Investments

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Federal Retirement Thrift Investment Board



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#### Introduction

The Thrift Savings Plan (TSP) is a retirement savings and investment plan for Federal employees. Congress established the TSP in the Federal Employees' Retirement System Act of 1986. Participation in the TSP was extended to members of the uniformed services in the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001. The purpose of the TSP is to provide retirement income. It offers Federal employees, including members of the uniformed services, the same types of savings and tax benefits that many private-sector corporations offer their employees under so-called "401(k) plans."

In the TSP, as in most similar retirement savings plans, the responsibility for choosing among investment options rests with each participant. The investment choices you make will most likely have a significant effect on the income available to you in retirement.

The Federal Retirement Thrift Investment Board, which administers the TSP, cannot give personal investment advice. However, this booklet can help you with your TSP investment decisions by providing information about investment approaches, the TSP investment funds, and how the funds are administered.

The best place to start learning about TSP investments is the *Summary* of the *Thrift Savings Plan for Federal Employees* or the *Summary of the Thrift Savings Plan for the Uniformed Services*. The Plan Summary is available from your personnel office, or it can be downloaded and printed from the TSP Web site (www.tsp.gov). You should read the Plan Summary before making any TSP investment decisions.

This booklet is intended for TSP participants who have read the Plan Summary but want more information on the TSP investment options and TSP investment operations and procedures. The booklet has three sections, five appendices, and a glossary. The first section discusses long-term investment approaches and techniques. The second section describes and presents the historical performance and management of the five TSP investment funds: the Government Securities Investment (G) Fund, the Fixed Income Index Investment (F) Fund, the Common Stock Index Investment (C) Fund, the Small Capitalization Stock Index Investment (S) Fund, and the International Stock Index Investment (I) Fund. The third section describes the operations of the TSP funds and the interfund transfer process. The appendices furnish certain TSP statistical and computational information, as well as certain TSP Fact Sheets. The glossary contains definitions of investment and financial terms used throughout the booklet.

The information in this booklet was updated as of December 31, 2000. More recent information is contained in the *TSP Highlights* mailed with your participant statement. In addition, you can get the most recent data for the five funds on the TSP Web site at www.tsp.gov and on the ThriftLine at (504) 255-8777.

# I. Investment Considerations and Approaches

To develop an investment approach for your TSP account, you should consider several factors: your investment objective, your time horizon, your comfort with or aversion to risk, your desired investment return, and the effect of inflation and taxes. All of these factors will affect the decisions you make about investing your TSP account. These factors, along with investment techniques you can use to manage your account, are discussed below. While these factors and techniques also apply to your investment decisions outside the TSP, the discussion in this booklet is limited to TSP investments.

## Your Investment Objective

Your investment objective is the first factor to consider, because the purpose of your savings should influence how you invest your money. The TSP is a retirement savings plan, so your investment choices should be made with that long-term objective in mind. If you have a 20- or 30-year career ahead of you, you may be able to tolerate investing in riskier funds (which have the potential to provide a higher return) because you have a longer time frame to weather the ups and downs of the more volatile markets. On the other hand, as you get closer to retirement, you may decide to change your investment objective in order to protect your savings better through less risky investment choices.

There may be times before retirement when your TSP investment objective temporarily accommodates a short-term need (for example, if you decide to borrow from your TSP account to purchase a home or pay for education expenses). However, any decision to remove money from your account (even for loans, which you repay with interest) should be carefully considered, because any loan or withdrawal will affect the amount of money available to you for your retirement.

Your investment objective should also take into account your needs in retirement. Financial planners generally estimate that your needs could be anywhere from 65% to 100% of your pre-retirement income. And, depending upon your age at retirement, you may need to plan for a period of 20 or more years. You also need to consider all your sources of retirement income — pensions, annuities, Individual Retirement Accounts (IRAs), Social Security benefits, and other savings and assets — when determining how your TSP account should be invested.

# Your Time Horizon and Risk Tolerance

Your time horizon is the number of years you have until retirement — or later, if you will not need to withdraw your TSP assets immediately upon retirement. Thus, if you are 40 years old and you want to withdraw your TSP account at age 65, your time horizon is 25 years.

In general, the greater the potential for large returns, the higher the risk of large losses, because the financial markets tend to reward with higher returns those investors who are willing to accept greater risk of losses. Conversely, less risky investments are generally associated with the potential for smaller returns.

Only you can determine the level of risk with which you are comfortable. However, regardless of your personal level of risk tolerance, your time horizon should influence how you invest your money. If you have a lengthy time horizon, you may be more willing to accept a greater level of risk. This is because, over long investment periods, an investor has a chance to recoup short-term losses incurred during the period. Indeed, if you have a long time horizon, you may find that the greater risk lies in investing too conservatively.

If your time horizon is short, you may choose to move more of your account into less risky investments to protect your assets. For example, if you need your money in 2 years and your investment experiences a 10% loss in the first year, you will need a gain of approximately 11% in the next year to regain the amount lost in the first year. If you are 5 years from retirement and lose 10% in the first year, you have 4 years during which the loss may be regained. Of course, there is no assurance that the market will provide the requisite gains in subsequent years. In fact, there could be losses in each of the next 4 years.

# Diversification and Risk

Diversification, one of the fundamental principles of investing, can affect the level of risk of your investments. Diversification is the spreading of your money among different investments to reduce the likelihood that your overall holdings will be dramatically affected by fluctuations in the prices of investments or by non-payment of principal or interest. You can diversify among a variety of types of investments (stocks, bonds, and money market instruments) that tend to move in opposite directions under a variety of economic conditions. You can also diversify within the same types of investments. In the stock market, for example, investing in a diverse group of stocks representing companies in a variety of industries tends to reduce the impact of changing economic conditions on one or several industries. In the bond market, diversification results from investing in bonds with varying maturities and credit quality in different sectors of the market.

While diversification does not insulate you from losses on particular investments, it can reduce the risk of incurring large losses on your entire portfolio. In a retirement savings plan, where you are building a large portfolio that will be invested for a long time, diversification is an important principle to consider. You should also take into account your other sources of retirement income and the risks associated with your other assets or investments when deciding how to invest your TSP account.

After considering your objective, time horizon, risk tolerance, and the amount of diversification you want, you should consider each of the five TSP investment funds to determine how each one fits into your investment strategy.

#### Risks and Returns of TSP Investment Options

The Five TSP Funds

Because it is impossible to predict the performance of stock or bond markets, investors often consider past performance to evaluate the relative risks and returns of investment alternatives. You should review performance over many years to observe how the investment performed under a variety of economic conditions; however, there is no guarantee that the performance will be repeated in the future.

The five TSP funds permit participants to invest in different sectors of the major financial markets: the money market (short-term debt securities), the bond market (longer-term debt securities), and various sectors of the equity market (domestic and international common stocks). Each of the five funds has different investment characteristics and risks, which provides the opportunity for broadly diversified investments. The five funds are described briefly below. A detailed description of the five TSP funds appears on pages 17 – 38.

Government Securities Investment (G) Fund — The G Fund is invested in short-term nonmarketable U.S. Treasury securities guaranteed by the full faith and credit of the U.S. Government. There is no possibility of loss of principal (i.e., the face amount of the security) from default by the U.S. Government and, thus, no credit risk. The current Board policy of investing only in short-term securities also eliminates the risk of loss from fluctuations in the value of securities as a result of changes in overall market rates of interest (market risk). G Fund earnings consist entirely of interest income on the securities. G Fund interest is reinvested by the Board as it is received from the U.S. Treasury.

**Fixed Income Index Investment (F) Fund** — The F Fund is invested in a Lehman Brothers U.S. Aggregate (LBA) bond index fund. The LBA index represents a large and diversified group of securities in the major sectors of the U.S. bond markets: U.S. Treasury and Federal agency securities, corporate bonds, (both U.S. and non-U.S.), mortgagebacked securities, and foreign government securities (dollar-denominated securities traded in the U.S. that are issued by foreign or international entities, such as sovereigns, multilateral lending institutions, foreign agencies, and foreign local governments). Although gains or losses in the value of securities resulting from changing market interest rates can make up a sizable portion of F Fund earnings in any one year, interest income on the securities is likely to be the dominant component of earnings in the long run. Although the risk of nonpayment of interest or principal is relatively low, the possibility exists that there could be a default in the payment of interest or principal on securities other than those of the U.S. Treasury. The effect

of such a default in the other sectors is reduced because a large portion of the F Fund is (indirectly) invested in securities of the U.S. Treasury, and the other sectors contain a large number of securities issued by a wide variety of large corporations, agencies, and foreign entities.

Common Stock Index Investment (C) Fund — The C Fund is invested in a Standard & Poor's 500 (S&P 500) stock index fund. The S&P 500 index consists of 500 stocks representing approximately 77% of the market value of the U.S. stock markets. Historically, the primary source of earnings has been the net changes in the prices of stocks, although dividend income is also a source of earnings. Because the S&P 500 index is broadly diversified (that is, it includes many companies in many different industries), the effect of poor performance in a company or group of companies in one industry is reduced. However, losses will occur in the C Fund if the S&P 500 index declines in response to changes in overall economic conditions.

Small Capitalization Stock Index Investment (S) Fund — The S Fund is invested in a Wilshire 4500 stock index fund. The Wilshire 4500 index consists of the stocks of the companies which are actively traded in the U.S. stock markets, excluding the companies in the S&P 500 index. It represents approximately 21% of the market value of the U.S. stock markets. The primary source of earnings is the changes in the prices of the stocks, although dividend income is also a source of earnings. Wilshire 4500 index returns tend to fluctuate more than S&P 500 index returns because the prices of the stocks of the smaller companies in the Wilshire 4500 index tend to react more strongly (positively and negatively) to changes in the economy. Therefore, an S Fund investment can be more volatile and potentially riskier than a C Fund investment. Although the Wilshire 4500 index is even more broadly diversified than the S&P 500 index, losses will occur in the S Fund if the Wilshire 4500 index declines in response to changes in overall economic conditions.

International Stock Index Investment (I) Fund — The I Fund is invested in a Europe, Australasia, and Far East (EAFE) stock index fund. The EAFE index consists of the stocks of companies in 20 (soon to be 21) countries representing 45% of the value of world stock markets. (The U.S. stock market represents 48% of the value of world stock markets.) The primary source of earnings is the changes in the prices of stocks, although, at times, currency changes relative to the U.S. dollar can be a greater component of earnings than stock price gains or losses. Dividend income is also a source of earnings. The EAFE index is broadly diversified among countries and industries, so the effect of poor performance in one stock market or group of companies is reduced. Losses will occur in the I Fund if the EAFE index declines in response to changes in overall economic conditions or to increases in the value of the U.S. dollar. EAFE index returns tend to fluctuate more than S&P 500 index or Wilshire 4500 index returns,

and therefore I Fund investments can be more volatile and potentially riskier than C or S Fund investments.

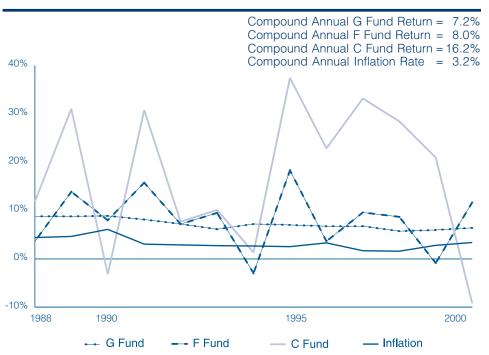
Although there is no guarantee that the past performance of the S&P 500, Wilshire 4500, and EAFE indexes is an indicator of future performance, the historical returns of the three indexes do show that the investor who remained invested in the indexes over long periods generally was rewarded with a higher return than investors in fixed-income securities, such as those held by the G Fund and (indirectly) the F Fund.

# Historical Performance of TSP Investment Options

Thirteen years of performance data are available for the three original TSP investment funds — the G Fund, the F Fund, and the C Fund. (See Appendix 1.) Chart 1 compares the performance of the three funds for the years 1988 through 2000. The compound annual return over the 13-year period was 7.2% for the G Fund, 8.0% for the F Fund, and 16.2% for the C Fund. Chart 1 illustrates that, while providing the highest returns, the C Fund is the riskiest of the three funds because the returns are the most volatile (that is, they tend to vary more from year to year). Both the F Fund and the C Fund have experienced years during the time period shown in which the return was negative. The S Fund and the I Fund are not included in Chart 1 because these funds were not established as of December 31, 2000. (Appendix 2 shows the historical performance of the indexes that the S and I Funds track for the same period.)

#### Chart 1

#### G Fund, F Fund, and C Fund Returns 1988\* – 2000

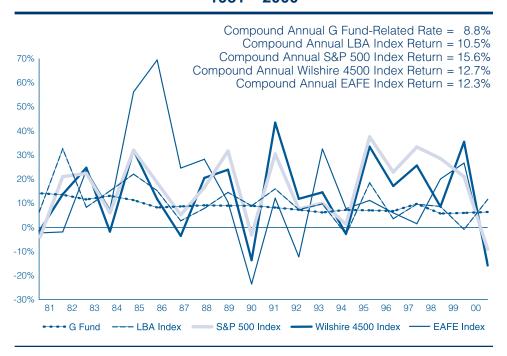


<sup>\*</sup>The first F Fund and C Fund investments occurred on January 29, 1988

Chart 2 compares the performance of the G Fund-related securities (G Fund), the LBA index (F Fund), the S&P 500 index (C Fund), the Wilshire 4500 index (S Fund), and the EAFE index (I Fund) for the 20-year period from 1981 – 2000. The compound annual return for the 20-year period was 8.8% for the G Fund-related securities, 10.5% for the LBA index, 15.6% for the S&P 500 index, 12.7% for the Wilshire 4500 index, and 12.3% for the EAFE index. The compound annual inflation rate for the same period was 3.6%.

Chart 2 shows that the S and I Funds are riskier than the C Fund because the S and I Fund returns can be more volatile, with larger fluctuations from year to year. For example, the EAFE index dramatically outperformed both the S&P 500 and the Wilshire 4500 for the years 1985 through 1988. However, between 1986 and 1990, the EAFE returns declined sharply, significantly underperforming both of the other indexes in 1989 and again in 1990, when all three indexes incurred negative returns.

# G Fund-Related Securities, LBA Index, S&P 500 Index, Wilshire 4500 Index, and EAFE Index 1981 – 2000



Examples of the greater volatility of the Wilshire 4500 versus the S&P 500 can be seen in 1990 and 1991. In 1990, the Wilshire 4500 yielded the second largest loss for either of the two domestic indexes during the 20 years presented. This was followed in 1991 by the highest return for the 20-year period. Similarly, in 1998 both the S&P 500 and the Wilshire 4500 showed declines in their returns compared to the prior year, but the Wilshire 4500 decline was far greater. Then, in 1999, the return for the Wilshire 4500 increased so dramatically that it substantially outperformed the S&P 500. In 2000, the Wilshire 4500 suffered its largest

Chart 2

loss in the 20-year period, underperforming the S&P 500, which also suffered a loss.

Chart 2 also shows that the G Fund-related securities and the LBA index were less volatile than the three stock indexes, but also yielded lower compound annual returns than the three stock indexes for the 20-year period.

Charts 3 and 4 further illustrate that while the highest returns for the EAFE and Wilshire 4500 indexes tend to be higher than those of the S&P 500, their losses tend to be larger than those of the S&P 500 as well.

Chart 3

S&P 500 Index vs. Wilshire 4500 Index Annual Returns 1981 – 2000

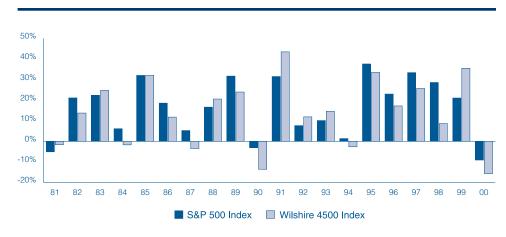
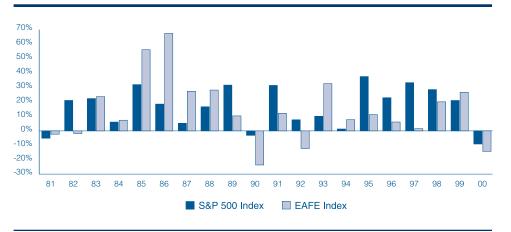


Chart 4

S&P 500 Index vs. EAFE Index Annual Returns 1981 – 2000



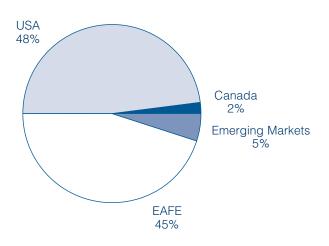
#### Diversification Offered by the TSP Funds

The G, F, C, S, and I Funds offer the opportunity to diversify investments, as described above. The G, F, C, and S Funds provide broad diversification between and within the U.S. bond and stock markets. The short-term G Fund securities complement the longer-term securities in the LBA index to provide full coverage of the U.S. fixed-income markets. The LBA index contains notes and bonds that represent the different sectors of the bond market and different maturities within those sectors. The S&P 500 index contains stocks of large companies and industries in the U.S. stock market, and the Wilshire 4500 index contains actively traded stocks of all U.S. companies except those in the S&P 500 index.

The C, S, and I Funds offer diversification between domestic and international stock markets. Like the C and S Funds, the I Fund is broadly diversified; it contains stocks of companies in 20 (soon to be 21) countries representing many different industries. As shown in Chart 5, as of December 31, 2000, the stock markets of the countries in the EAFE index represented 45% of world stock markets, while the U.S. stock market represented 48% of world markets. Thus, the C, S, and I Funds together cover 93% of the market value of world stock markets.

Chart 5

# World Stock Markets Allocation of Stock Market Value December 31, 2000



Over long periods of time, domestic and international stocks have performed differently in response to fundamental differences in national economies and government policies. As a result, as shown in Chart 2, there have been periods when the EAFE index outperformed the S&P 500 index and the Wilshire 4500 index, as in 1985 – 88 and 1993, or underperformed them, as in 1982, 1990 – 92, and 1997. The tendency for domestic and international stocks to move differently under varying conditions means that investing in a combination of

the C, S, and I Funds provides the opportunity to benefit from the potential for higher returns while at the same time reducing risk. Risk is reduced because moves in one stock market may be offset, or hedged, by moves in a different direction in the other markets, reducing the likelihood of incurring large losses on the entire portfolio.

You can follow the principle of diversification in your TSP account by choosing a mix of investments in the G, F, C, S, and I Funds with which you are most comfortable. You may invest in the riskier F, C, S, and I Funds for the potential of attractive returns, with the knowledge that the indexes in which they are invested are widely diversified portfolios. You can offset the risk of stock and bond market losses by also investing in the risk-free G Fund.

# The Effect of Inflation and Taxes on TSP Savings

In addition to your investment objectives, time horizon, and the risk-versus-return relationship of TSP investment alternatives, you should consider the effects of inflation and taxes on the purchasing power of the money you are saving for retirement.

Inflation

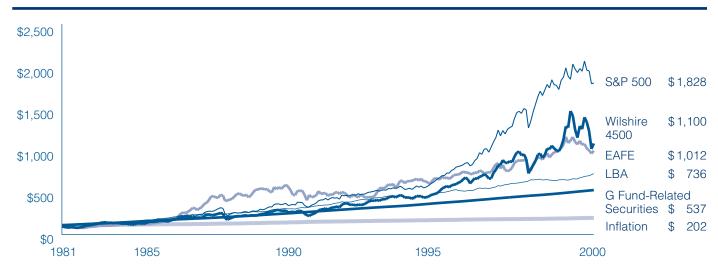
The Consumer Price Index (CPI) represents the change in the price of a fixed set of consumer goods, and is a common measure of the inflation rate. The U.S. economy has experienced inflation every year since 1954. An item that cost \$10 in January 1955 cost \$65.07 in December 2000, based on the CPI rates during the period. The purchasing power of your investments will be reduced by cumulative inflation unless you earn a rate of return high enough to offset inflation. Although it is impossible to predict future inflation rates, it is instructive to look at historical inflation rates under a variety of economic conditions.

Over many years, stock returns have been higher than those of fixed-income securities and have exceeded inflation by wider margins. Chart 6 shows the growth of \$100 invested in G Fund-related securities, the LBA, the S&P 500, the Wilshire 4500, and the EAFE index over the 20 years from 1981 – 2000, relative to the effect of inflation. The \$100 in each of the five investment funds grew more than inflation, but the \$100 invested in each of the three stock funds grew to a larger amount than the \$100 invested in the two fixed-income funds. Chart 6 also illustrates the larger fluctuations in value in the three stock funds relative to the short-term G Fund securities and the longer-term notes and bonds in the LBA.

**Taxes** 

The TSP offers substantial tax advantages compared with most other investment alternatives available to you. You do not pay income taxes on any part of your basic pay that you contribute to the TSP, reducing your tax bill for the current year. You also do not pay current income taxes on the earnings in your account, which allows substantial additional growth in compound earnings compared to an investment in which earnings are subject to income taxes each year.

Chart 6 Growth of \$100 in G Fund-Related Securities, LBA, S&P 500, Wilshire 4500, EAFE, and Inflation 1981 – 2000



However, amounts withdrawn from your TSP account will be subject to income taxes.\* This means that, in addition to the reduction in the purchasing power of your TSP account because of inflation, taxes will further reduce the retirement income available to you from your TSP account.

Using a simplified one-year example, which ignores the long-term tax benefits of the TSP, assume you invest \$100 in tax-deferred contributions for a year and earn 10% (\$10). If inflation is 6% (\$6), and the marginal tax rate on your earnings is 40% (\$10 x .40 = \$4) for Federal, state, and local income taxes, your net return after taxes and inflation will be zero, in which case you will have just maintained the purchasing power of your \$100 investment. It is partly the risk of loss in purchasing power that leads many financial experts to advise individuals to place at least some of their long-term investments in the stock market. Despite the volatility of the stock market, stock market investments have more effectively preserved purchasing power than other investment alternatives.

You may not know what your tax rate is going to be when you retire or how you will choose to withdraw funds from the TSP, nor can you predict inflation or investment returns in coming years. The simple example outlined above, however, demonstrates how inflation and

<sup>\*</sup>Members of the uniformed services who participate in the TSP can also make contributions from their combat pay (which is tax-exempt). These contributions are not subject to income taxes when withdrawn from participants' TSP accounts; however, earnings on these contributions are subject to income taxes when withdrawn.

taxes can reduce the real value of your investments. Therefore, you should consider the effect of inflation and your personal tax situation in your financial planning for retirement.

#### Making Your TSP Investment Decisions

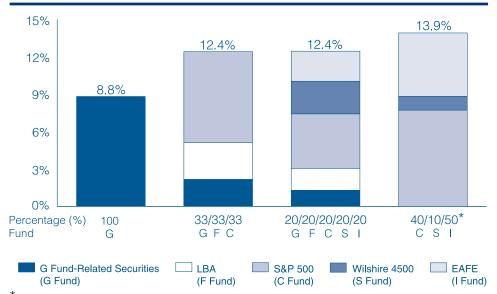
When making your TSP investment decisions among the G, F, C, S, and I Funds, you should consider your age, your total financial situation (including your estimated income from other investments and other retirement benefits), and your retirement plans.

Generally, if you are relatively young (in your 20's or 30's), you are in a position to accept the risk of short-term losses in exchange for the potential for higher long-term returns. Therefore, you may want to consider investing a larger portion of your account in stocks (C, S, and I Funds) and a moderate portion in the G and F Funds. C, S, and I Fund investments may help you keep ahead of inflation, and F Fund investments will balance overall returns when market interest rates, and thus G Fund rates, are declining.

If you are nearing retirement age and you expect that you will need most or all of your TSP account immediately upon retirement, you may want to consider reducing your F, C, S, and I Fund balances and increasing your G Fund balance. However, if you expect to receive substantial income from other investments or from FERS or CSRS basic annuities, uniformed services retired pay, and Social Security, which include cost-of-living increases, you may conclude that you will have sufficient purchasing power in retirement. You may therefore decide to defer withdrawing your TSP account until sometime after retirement (and thereby extend your investment horizon). Depending on the age at which you retire, your investment horizon may still be so long that you may choose not to change the proportions of your TSP account that you allocate to the C, S, and I Funds. On the other hand, if you have other large investments in common stocks outside of the TSP, you may wish to diversify by investing your TSP account largely in the G or F Fund.

Chart 7 illustrates the returns from various portfolio mixes of G Fundrelated securities (G Fund), LBA (F Fund), S&P 500 (C Fund), Wilshire 4500 (S Fund), and EAFE (I Fund) investments, based on their compound annual returns during the 20 years from 1981 – 2000. The compound annual returns range from 8.8% for a 100% G Fund investment, to 12.4% for an equal investment in the G, F, and C Funds or for equal investments in the G, F, C, S, and I Funds, and to 13.9% for an all-stock investment of 40% in the C Fund, 10% in the S Fund, and 50% in the I Fund. (In all cases, the returns are for the securities and indexes related to the TSP funds because the TSP funds themselves were not available over this entire time period.)

#### Portfolio Mix of G Fund-Related Securities, LBA, S&P 500, Wilshire 4500, and EAFE Compound Annual Return, 1981 – 2000



This portfolio approximates the relative market capitalizations of the stocks constituting the S&P 500, Wilshire 4500, and EAFE indexes, respectively.

# **Investment Techniques**

Once you have decided how you want to invest your money, you must decide on a strategy for implementing that decision. You have two ways to effect the investment of your account. You can redistribute your existing TSP balance among the funds by making interfund transfers, and you can change the allocation of your future payroll contributions to the funds of your choice. Regardless of your investment strategy, you should review your TSP investment mix from time to time to determine whether it is consistent with your retirement plans.

#### **Interfund Transfers**

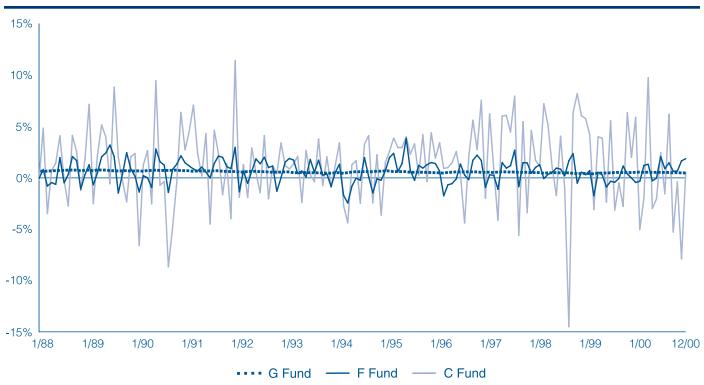
Interfund transfers are a useful tool for managing the money already in your account. If you wish to change your investment strategy because your circumstances have changed, you can make an interfund transfer to change your investment mix to reflect your new strategy. If you wish to maintain your investment strategy, but you have experienced gains or losses that have changed the investment proportions you intended, you can make an interfund transfer to restore your account to the proportions you prefer. You can make an interfund transfer most efficiently on the TSP Web site or the ThriftLine. You can also mail Form TSP-50 (or TSP-U-50, for uniformed services), Investment Allocation, to the TSP record keeper. If made on or before the 15th of a month, interfund transfers are effective as of the end of that month; otherwise, they are effective as of the end of the following month.

Market timing — Investors engage in "market timing" when they move from one investment to another based on their opinion regarding the likely performance of those investments in the near future. Market timing is usually motivated by the belief that one can make profits during periods of good investment performance and avoid losses during periods of poor performance by skillfully switching money among different investments. If the investor guesses correctly often enough, the result may be better investment returns than returns for investors who "buy and hold" the same investments. While it is certainly possible to "beat the market" by market timing for short periods, most investment experts believe such success is highly unlikely over long periods.

Stock and bond investments can experience short periods of several months in which unexpected swings occur. The experience of the C and F Funds provides examples of rapid market movements. As Chart 8 shows, from January 1988 through December 2000, C Fund monthly returns ranged from a high of 11.4% in December 1991 to a low of -14.5% in August 1998. From January through June 1996, the C Fund gained 10.1%; it lost 4.4% in July, and then gained 19.1% from August through November 1996. From November 1997 through June 1998, the C Fund gained 25.2%; it lost 15.4% from July through August 1998, and then gained 29.0% from September through December 1998. The F Fund has not been as volatile as the C Fund, but its

#### Chart 8

#### G, F, and C Fund Monthly Returns January 1988 – December 2000



monthly returns have ranged from -2.4% in March 1994 to 3.8% in May 1995. Of course, the G Fund has been a steady performer, always producing positive returns.

As these examples illustrate, large market movements can occur rapidly. By the time the market timer reacts to the situation, the market may be moving in the opposite direction. If you miss one or two brief upswings in a decade, your investments may underperform the average market return for the entire period. Depending on the particular signals that spur a market timer to action, he or she may capture some upswings and may avoid some downswings, but these switching tactics are unlikely to be consistently successful over long periods.

The fact that interfund transfers can occur only monthly makes market timing of TSP accounts especially ill-advised. TSP participants who believe that they have the time and skill to "trade the markets" successfully should do so using private-sector securities accounts.

## Allocating Future Contributions

Allocating future payroll contributions to the funds of your choice avoids the market-timing risks associated with interfund transfers; you change your investment mix gradually. Because of market volatility, you may benefit from a consistent approach to achieving your investment mix rather than moving your money periodically through interfund transfers. You may change your contribution allocation at any time on the TSP Web site or the ThriftLine, or by mailing Form TSP-50, Investment Allocation, to the TSP record keeper. Your new allocation generally will take effect with your next payroll contribution.

**Dollar cost averaging** — Dollar cost averaging is a long-term "buy and hold" strategy of investing fixed dollar amounts at regular intervals over time. As a result, the investor buys more shares when market prices are low and fewer shares when market prices are high. Dollar cost averaging thus results in an investor's average purchase price per share being lower than the average price of the shares over time. The following chart is an example of the advantage of dollar cost averaging.

Period	Investment Amount	Share Price	Shares Purchased
1	\$200	\$50	4
2	\$200	\$40	5
3	\$200	\$20	10
4	\$200	\$40	5
Totals	\$800	\$150	24

- Average share price = \$150/4 = \$37.50 over the four periods
- Investor's cost per share = \$800/24 = \$33.33

The success of dollar cost averaging depends on regular investing over a long period of time regardless of price fluctuations. It will only result in lowering the investor's average cost per share if investments continue when share prices are dropping. The same amount of money will buy more shares when prices are lower. This is what causes the investor's average cost per share to be lower than the average share price. In the above example, if \$800 were invested at one time rather than over four periods, the only period in which the investor would have successfully "timed the market" would have been the third period. In the first, second, and fourth periods, the share price would have been higher than the average cost per share obtained by dollar cost averaging.

TSP participants can take advantage of dollar cost averaging by consistently contributing to the F, C, S, and I Funds through payroll deductions. Although TSP participants' accounts are not stated or held in shares but in dollar balances, consistent contributions have the same "averaging" effect as if shares were being acquired.

Dollar cost averaging does not protect against losses when stock or bond markets are declining, but it does reduce the risk of investing by ensuring that stock and bond purchases are made at a variety of prices, buying more shares at lower prices and fewer at higher prices. Dollar cost averaging also eliminates the risk of investing all of your money in the stock or bond market at market peaks.

## II. TSP Investment Fund Management

### Passive Management

The G, F, C, S, and I Funds are "passively managed." This is accomplished by the TSP's investing in index funds that use a "buy and hold" strategy. In contrast, "active investment management" often involves the buying and selling of securities based on the identification of companies or industries that appear to be undervalued or that may offer good growth potential. The assumption underlying active investment management is that securities selected on the basis of certain criteria will "beat the market." Passively managed funds, in contrast, attempt to replicate the performance of the market, or of a segment of the market.

Indexing is a common form of passive management in which securities are held in amounts based on their relative representation in the bond or stock markets. The philosophy of indexing is that over the long term it is difficult to exceed the average return of the market. Because securities are held based on their representation, indexing does not require research on individual companies or individual securities. Also, securities in the indexes are bought and sold less often, resulting in low trading costs. As a result, the investment management fees and trading costs incurred from following a passive indexing style are generally much lower than similar costs associated with active management.

#### **G** Fund

By law, the G Fund must be invested in nonmarketable U.S. Treasury securities specially issued to the TSP. The G Fund is invested exclusively in short-term securities, with maturities currently ranging from one day on business days to 4 days over holiday weekends. Such daily investments are kept by electronic entries and do not involve any transaction costs to the TSP. The G Fund rate is set once a month by the U.S. Treasury, and all G Fund investments earn interest at that rate for the month. The Board pursues a strategy of investing the G Fund in short-term securities, as described above, regardless of the G Fund rate. As a result, the value of G Fund securities does not fluctuate; only the interest rate changes. Thus, when the monthly G Fund interest rate goes up, G Fund earnings increase; when the G Fund interest rate declines, G Fund earnings decrease.

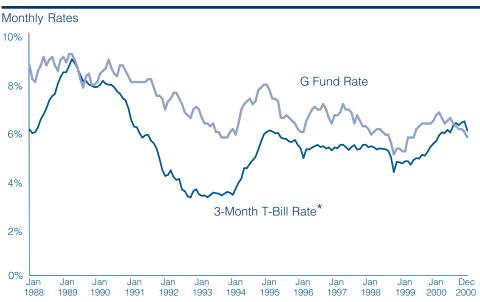
All investments in the G Fund earn interest at a statutory rate that is equal to the average of market yields on outstanding U.S. Treasury marketable securities having 4 or more years to maturity. The G Fund rate is calculated by the U.S. Treasury using the closing market bid prices (the prices at which dealers are willing to buy securities) of approximately 70 U.S. Treasury securities on the last day of the previous month. These

market prices are used to calculate the yield of each security. The yield of each security has a weight in the G Fund rate calculation based on the market value of that security. (Market value is defined as the outstanding dollar amount of the security measured at its current market price. The larger the dollar amount of a security outstanding, the larger its weight in the calculation.) Thus, the G Fund rate is a weighted average of yields of approximately 70 Treasury marketable notes and bonds with a weighted average maturity of approximately 14 years. (The G Fund rate formula is the same as that used to calculate the interest rate for the investments of the Social Security Trust Funds and the Civil Service Retirement Trust Fund.)

The G Fund rate calculation and the Board's policy of investing exclusively in short-term securities result in a longer-term rate on short-term securities. Generally, long-term interest rates are higher than short-term rates; therefore, G Fund securities generally yield a higher rate of return to TSP participants than the rates of return on short-term marketable Treasury securities.

The G Fund can be compared with 3-month marketable Treasury securities (T-bills). Chart 9 shows the G Fund yield versus that of 3-month T-bills from January 1988 (when the F and C Funds began) through December 2000. The G Fund interest rate averaged 1.6 percentage points more per year than 3-month T-bill rates during the period.

#### G Fund Yield Advantage January 1988 – December 2000



<sup>\*</sup> Source: Federal Reserve Statistical Release G.13 (Yields expressed on a coupon-equivalent basis)

Chart 9

# F, C, S, and I Funds

The asset managers of the F, C, S, and I Funds are selected through a competitive bidding process. Proposals from prospective asset managers are evaluated on objective criteria that include trading costs, fiduciary record, experience, fees, and the ability to track the appropriate index.

The Board has contracts with Barclays Global Investors (Barclays), a company owned by Barclays PLC, to manage F, C, S, and I Fund assets. Barclays is the largest investment manager of index funds in the United States, and has under management over \$800 billion in total assets. The F and C Fund contracts will expire on April 30, 2004, and the S and I Fund contracts will expire on December 31, 2004. Each of the four contracts has an option to extend the contract for an additional 2-year period.

The F Fund is invested in the Barclays U.S. Debt Index Fund; the C Fund is invested in the Barclays Equity Index Fund; the S Fund is invested in the Barclays Extended Market Index Fund; and the I Fund is invested in the Barclays EAFE Index Fund. The four Barclays funds are commingled trust funds in which the assets of public and corporate tax-exempt employee benefit plans are combined and invested together. Barclays keeps separate accounting records for each plan that is invested in each of the four funds. As of December 31, 2000, 229 employee benefit plans were invested in these funds.

Because the securities in their index funds are held in trust by Barclays, they are not assets of Barclays. The assets in those funds cannot be used to meet the financial obligations of Barclays or any related companies. Therefore, the F, C, S, and I Fund assets, which in substance are the securities in the related Barclays funds, are protected from any adverse financial situation involving Barclays or any of its subsidiaries or affiliates.

Barclays is a fiduciary with respect to F, C, S, and I Fund assets. This means that it must act solely in the interest of the participants and beneficiaries whose assets it holds in trust. Barclays is subject to a variety of laws and audits designed to protect pension plan assets. Barclays' operations are subject to review by the Office of the Comptroller of the Currency, the Securities and Exchange Commission, the Federal Reserve, and the Department of Labor. In addition, the four Barclays funds are audited annually. Barclays has insurance which covers breaches of fiduciary responsibility and losses incurred as a result of errors or omissions.

The Barclays funds are not mutual funds and are not open to individual investors. They are open only to tax-exempt employee benefit plans. However, although the Barclays index funds are not mutual funds, they operate in a manner similar to mutual funds. The funds accept purchases and make redemptions each business day. The amount purchased or redeemed by the TSP investment funds on any given day is determined by the amount of participant activity affecting each fund,

such as contributions, withdrawals, loans, and interfund transfers. Contributions to the F, C, S, and I Funds are invested in G Fund securities until the cash is transferred to the respective Barclays funds each business day.

Each business day, F, C, S, and I Fund contributions buy shares of their related Barclays fund at a share price that is based on the closing index market prices on that day. If loans, withdrawals, and interfund transfers from the F, C, S, or I Fund are greater than contributions to the fund on a business day, the TSP fund sells shares of its related Barclays fund. Each share represents a fraction of the total value of the related index fund.

The Barclays index funds incur trading costs when they purchase or sell securities in the bond or stock markets. When trading costs are incurred, they either reduce the amount of the F, C, S, or I Fund contributions invested in the related Barclays index fund, or they are charged to the related Barclays index fund (thereby reducing the share price of the fund). In either case, trading costs reduce the total return to TSP participants in that fund. However, because of the large asset size and the large number of clients in the Barclays index funds, F, C, S, and I Fund purchases (or sales) of Barclays index fund shares frequently can be partially or fully exchanged with the shares of other clients who are selling (or buying) shares, thus avoiding trading costs.

By law, the F Fund must be invested in fixed-income securities, and the Board has chosen to invest the F Fund in a bond index fund that tracks the overall performance of the U.S. bond market. To accomplish this goal, the F Fund is invested in the Barclays U.S. Debt Index Fund, which invests in notes and bonds in the LBA index.

As interest rates rise, bond prices fall. This is because, when interest rates rise, the coupon rate (rate at which interest is paid) on new securities is higher than the coupon rate on older securities. Therefore, the price investors are willing to pay for older securities must decline to make the yields of the older securities equal to the returns available on new securities. During periods of rising rates, the bonds in the LBA index can be expected to experience losses. During periods of falling interest rates, when the prices of bonds are rising, the LBA index will experience gains. The F Fund returns will move up and down with the returns in the bond market. The F Fund offers the opportunity for increased rates of return relative to the G Fund over the long term, especially in periods of generally declining interest rates. **The F Fund remains invested in the Barclays U.S. Debt Index Fund regardless of conditions in the bond market or the economy.** 

The LBA index was designed to measure the performance of the major bond markets in the United States and to represent the broadest sectors of those markets. The LBA index consists of high quality fixedincome securities, with maturities of more than one year, representing

#### F Fund

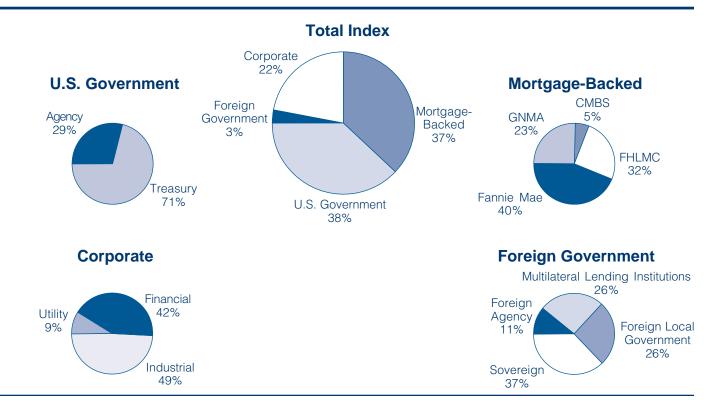
#### LBA Index

the U.S. Government, mortgage-backed securities, corporate, and foreign government sectors of the U.S. bond market. The composition of the market value of the LBA index as of December 31, 2000, is shown by sector in Chart 10. Also shown are the percentages of the market values of the different types of securities that make up each sector.

The U.S. Government sector represents 38% of the index and includes U.S. Treasury securities (71%) and Federal agency securities (29%). The Treasury portion includes all public obligations of the U.S. Treasury with maturities of at least one year and an outstanding par value, or principal amount, of at least \$150 million. The Federal agency portion is made up of publicly issued obligations of so-called "Government-sponsored enterprises" (GSEs), such as the Federal Home Loan Bank System and the Federal Farm Credit Bank System, with maturities greater than one year and an outstanding par value of at least \$150 million.

Chart 10

#### LBA Bond Index Bond Market Sectors December 31, 2000



Mortgage-backed securities constitute approximately 37% of the LBA index. These securities include fixed-rate, pass-through securities backed by residential mortgage pools of the Government National Mortgage Association (GNMA or Ginnie Mae), Fannie Mae, and the Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac). Mortgage-backed pass-through securities are those in which investors

own an interest in a pool of mortgages that serves as the underlying asset; investors receive a *pro rata* share of the cash flows, through an intermediary, from the monthly payments of mortgages in the pool.

The mortgage pools underlying Ginnie Mae pass-through securities contain FHA-insured or VA-guaranteed mortgages. Ginnie Mae guarantees the payment of principal and interest on its pass-through securities, and, because Ginnie Mae is an agency of the U.S. Government, these securities are backed by the full faith and credit of the United States. Ginnie Mae pass-through securities represent 23% of the mortgage-backed securities sector.

Fannie Mae and Freddie Mac are GSEs. They also guarantee the payment of principal and interest on their mortgage-backed securities, but because they are not full-faith-and-credit agencies of the U.S. Government, yields on their securities are higher than the yields on Ginnie Mae securities. Fannie Mae and Freddie Mac securities represent 40% and 32% of the mortgage-backed securities sector, respectively.

Commercial mortgage-backed securities (CMBS) were added to the LBA in July 1999. They are issued by private corporations and are backed by commercial real estate mortgages. Commercial mortgage-backed securities are not guaranteed by the U.S. Government or GSEs. However, the LBA includes only the highest rated commercial mortgage-backed securities (rated Aaa by Moody's Investors Service or AAA by Standard & Poor's Corporation).

The corporate sector represents 22% of the LBA index and includes all publicly issued, fixed-rate, investment-grade securities of U.S. and non-U.S. companies in many different industries with maturities of at least one year and an outstanding par value of at least \$150 million. Investment-grade securities are fixed-income securities rated at least Baa3 by Moody's Investors Service or BBB— by Standard & Poor's Corporation.

The foreign government sector includes U.S. dollar-denominated securities issued or guaranteed by foreign or international entities (sovereigns, multilateral lending institutions, foreign agencies, and foreign local governments) which are traded in the United States.

On December 31, 2000, the LBA included 6,097 notes and bonds. The average LBA index coupon rate was 6.9%, which means that, on an annual basis, interest income will equal approximately 6.9% of the face value of the securities in the LBA index. The average LBA index maturity was 8.4 years, which means that any given security in the index is expected to be outstanding for 8.4 years before it is retired by its issuer. New issues are added continuously to the LBA index, and older issues drop out as they approach maturity. Maturities of the notes and bonds in the LBA index range from 1 to 30 years.

Barclays U.S. Debt Index Fund — Because the LBA index contains such a large number of securities, it is not feasible for the U.S. Debt Index Fund to invest in each security in the index. As a result, Barclays uses mathematical models to select a representative sample of the various types of U.S. Government, corporate, mortgage-backed, and foreign government securities included in the overall index. Within each sector, Barclays selects securities that, as a whole, are designed to produce the same average coupon rate and average maturity as the LBA index. A portion of debt index fund assets is reserved to meet the needs of daily client activity. This liquidity reserve is invested in short-term Treasury securities. The performance of the U.S. Debt Index Fund is evaluated by comparing how closely its returns match those of the LBA index.

Commencing in May 2001, the F Fund began investing in the Barclays U.S. Debt Index Fund by purchasing shares of the Barclays U.S. Debt Index Fund "E", which in turn holds shares of the Barclays U.S. Debt Index Master Fund. Before May 2001, the F Fund invested directly in the U.S. Debt Index Master Fund. The change was made to accommodate daily investments of F Fund assets. (Previously, investments were made twice per month.) As of December 31, 2000, the U.S. Debt Index Fund "E" held \$1.1 billion of the U.S. Debt Index Master Fund, which itself held \$12.9 billion of securities. F Fund holdings constituted \$4.3 billion of the December 31, 2000, value of the U.S. Debt Index Master Fund.

By law, the C Fund must be invested in a portfolio designed to replicate the performance of an index that includes common stocks the aggregate value of which is a reasonably complete representation of the U.S. equity markets. The Board has chosen the S&P 500 index, which tracks the overall performance of the major companies and industries in the U.S. stock markets. The objective of the C Fund is to match the performance of the S&P 500 index. The C Fund is invested in the Barclays Equity Index Fund, which tracks the S&P 500 index by buying shares of all of the common stocks of the companies that the index comprises.

As prices of the stocks of the companies in the S&P 500 index rise and fall, the S&P 500 index and C Fund returns will rise and fall. The C Fund gives participants the opportunity to diversify their investments and to earn the relatively high investment return that stocks can provide over the long term, while lessening the effect that the poor performance of an individual stock or industry will have on overall investment performance. The C Fund remains invested in the Barclays Equity Index Fund regardless of stock market movements or general economic conditions.

The S&P 500 index was designed by Standard & Poor's Corporation (S&P) to provide a representative measure of stock market performance. The index comprises common stocks of 500 companies that are traded in the U.S. stock markets, primarily on the New York Stock Exchange. As of December 31, 2000, the 500 stocks represented 107 separate industries grouped into four major sectors: industrials, utilities, financial, and transportation. The composition of the S&P 500 is

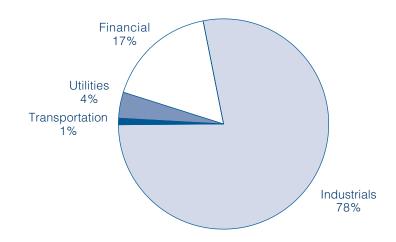
#### C Fund

**S&P** 500 Index

shown by major industry group in Chart 11. The stocks in the S&P 500 make up approximately 77% of the market value of the U.S. stock markets.

#### Chart 11





The 500 companies in the index are selected by S&P primarily based on the companies' representation of their industry groupings. S&P does not select companies because the firms are expected to have superior stock price performance relative to the stock market in general or to other stocks. S&P's sole objective is to maintain the S&P 500 index as a representative measure of overall U.S. stock market performance. If a company in the S&P 500 index is acquired by or merged with another company, S&P will remove the company from the index and add another firm in its place. Although mergers and acquisitions are the most common reason for changes to the S&P 500 index, S&P also removes any companies from the index that file for protection under the Federal bankruptcy laws.

The weighting of stocks in the S&P 500 index is based on each stock's total market value, that is, its market price per share multiplied by the number of shares outstanding, relative to the market value of the other stocks in the index. As a result, the S&P 500 is considered a "big company" index, and the largest companies in the index represent the largest portion of the index. As of December 31, 2000, the largest 100 companies in the S&P 500 represented 72% of the S&P 500 market value.

Many of the stocks in the S&P 500 index are household names, such as General Motors, McDonald's, Microsoft, and Walt Disney. The 20 largest companies in the index, as of December 31, 2000, are listed in Chart 12.

Most of the companies in the S&P 500 index pay dividends. The dividend yield (annual dividends divided by current market price) for the S&P 500 index as of December 31, 2000, was 1.2%. This means that, at December 31 market prices, annual dividend income equalled approximately 1.2% of the market value of the S&P 500 index. Of course, dividend yield varies with stock prices. Assuming relatively stable dividend payments, dividend yield will rise when stock prices fall and decline when stock prices rise. Thus, dividend income provides a cushion when S&P 500 stock prices are falling.

# Largest Companies in the S&P 500 Index December 31, 2000

(Based on the total market value of the company relative to the total market value of the index)

Rank	Company	Percent of Total Value of the S&P 500 Index	Cumulative Percent
1	General Electric	4.06	4.06
2	Exxon Mobil Corporation	2.58	6.64
3	Pfizer, Inc.	2.48	9.11
4	Cisco Systems	2.35	11.46
5	Citigroup Inc.	2.19	13.65
6	Wal-Mart Stores	2.03	15.68
7	Microsoft Corporation	1.97	17.65
8	American International Group	1.96	19.61
9	Merck & Company	1.84	21.46
10	Intel Corporation	1.73	23.18
11	Oracle Corporation	1.39	24.57
12	SBC Communications, Inc.	1.38	25.95
13	Coca Cola Company	1.29	27.24
14	International Business Machines	1.27	28.52
15	Johnson & Johnson	1.25	29.76
16	EMC Corporation	1.24	31.00
17	Bristol-Myers Squibb	1.23	32.24
18	Verizon Communications	1.15	33.39
19	Royal Dutch Petroleum	1.11	34.50
20	Home Depot	0.90	35.41

Percentages do not add due to rounding. Source: Standard & Poor's Corporation

Chart 12

Barclays Equity Index Fund — The Equity Index Fund holds common stocks of all the companies represented in the S&P 500 index in virtually the same weights as they are represented in the S&P 500 index. A portion of Equity Index Fund assets is reserved to meet the needs of daily client activity. This liquidity reserve is invested in S&P 500 index futures contracts.

Commencing in May 2001, the C Fund began investing in the Barclays Equity Index Fund by purchasing shares of the Barclays Equity Index Fund "E", which in turn holds shares of the Barclays Equity Index Master Fund. Before May 2001, the C Fund invested directly in the Equity Index Master Fund. The change was made to accommodate daily investments of C Fund assets. (Previously, investments of C Fund assets were made four times per month.) As of December 31, 2000, the Equity Index Fund "E" held \$21.3 billion of the Equity Index Master Fund, which itself held \$158.1 billion of securities. C Fund holdings constituted \$56.6 billion of the December 31, 2000, value of the Equity Index Master Fund.

#### S Fund

By law, the S Fund must be invested in a portfolio designed to replicate the performance of an index that includes common stocks the aggregate market value of which represents the U.S. equity markets, excluding the stocks that are held in the C Fund. The Board has chosen the Wilshire 4500 index, which tracks the performance of the non-S&P 500 stocks in the U.S. stock market. The objective of the S Fund is to match the performance of the Wilshire 4500 index. The S Fund is invested in the Barclays Extended Market Index Fund, which tracks the Wilshire 4500 index.

As prices of the stocks of the companies in the Wilshire 4500 index rise and fall, the Wilshire 4500 index and the S Fund returns will rise and fall. The S Fund gives participants the opportunity to diversify their investments and to earn the relatively high investment return that stocks can provide over the long term, while lessening the effect that the poor performance of an individual stock or industry will have on overall investment performance. The S Fund remains invested in the Barclays Extended Market Index Fund regardless of stock market movements or general economic conditions.

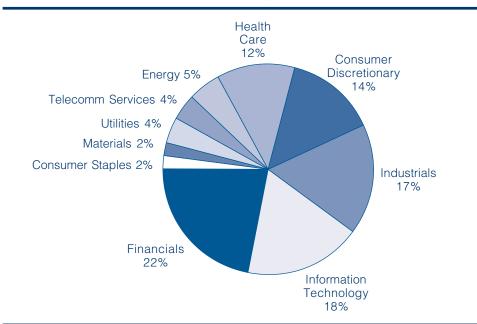
#### Wilshire 4500 Index

The Wilshire 4500 index (comprising the companies in the Wilshire 5000 index minus the companies in the S&P 500 index) is the broadest measure of the domestic stock markets that excludes the companies held in the S&P 500 index. As of December 31, 2000, the Wilshire 4500 index represented approximately 21% of the market capitalization of the U.S. stock markets, and the S&P 500 index represented approximately 77% of the domestic markets. Thus, the S Fund and the C Fund combined cover virtually the entire U.S. stock market. Stocks that are not actively traded on a daily basis are excluded from both the S&P 500 and Wilshire 4500 indexes.

The Wilshire 4500 index, computed and published by Wilshire Associates, actually contains more than 4,500 securities. The index includes all non-S&P 500 stocks with established prices on any given day. As of December 31, 2000, the index included the stocks of 6,158 companies. The percentage composition of the Wilshire 4500 by major industry group is shown in Chart 13.

#### Chart 13

#### Wilshire 4500 Index Major Industry Groups December 31, 2000



The weighting of stocks in the Wilshire 4500 index is based on each stock's total market value, that is, its market price per share multiplied by the number of shares outstanding, relative to the market value of the other stocks in the index. As of December 31, 2000, the largest 100 companies in the Wilshire 4500 index represented 30% of the Wilshire 4500 market value. The 20 largest companies in the index, as of December 31, 2000, are listed in Chart 14.

## Largest Companies in the Wilshire 4500 Index December 31, 2000

(Based on the total market value of the company relative to the total market value of the index)

Rank		ercent of Total Value of ne Wilshire 4500 Index	Cumulative Percent
1	Berkshire Hathaway, Inc.	3.49	3.49
2	Juniper Networks, Inc.	1.28	4.77
3	Cox Communications, Inc.	0.86	5.63
4	Ciena Corp.	0.75	6.38
5	i2 Technologies, Inc.	0.71	7.09
6	Applied Micro Circuits Corp.	0.71	7.80
7	Immunex Corp.	0.70	8.50
8	<b>Brocade Communications Syste</b>	ms, Inc. 0.65	9.16
9	Gemstar-TV Guide International,	Inc. 0.61	9.77
10	General Motors H	0.56	10.33
11	BEA Systems, Inc.	0.53	10.87
12	VoiceStream Wireless Corp.	0.52	11.39
13	Goldman Sachs Group, Inc.	0.46	11.85
14	VeriSign, Inc.	0.46	12.32
15	Genentech, Inc.	0.44	12.76
16	Ariba, Inc.	0.43	13.19
17	Millennium Pharmaceuticals, Inc	. 0.42	13.61
18	SDL, Inc.	0.42	14.03
19	Level 3 Communications, Inc.	0.39	14.42
20	John Hancock Financial Service	s, Inc. 0.38	14.80

Percentages do not add due to rounding.

Source: Wilshire Associates

As of December 31, 2000, approximately 25% of the companies in the Wilshire 4500 index paid dividends. The dividend yield (annual dividends divided by current market price) for the Wilshire 4500 index as of December 31, 2000, was 1.01%. This means that, at December 31 market prices, annual dividend income equalled approximately 1.01% of the market value of the Wilshire 4500 index. Of course, dividend yield varies with stock prices. Assuming relatively stable dividend payments, dividend yield will rise when stock prices fall and decline when stock prices rise. Thus, dividend income provides a cushion when Wilshire 4500 stock prices are falling.

Barclays Extended Market Index Fund — Because the Wilshire 4500 index contains such a large number of stocks, including illiquid stocks (stocks that are not traded frequently) and stocks with prices less than \$1.00 per share, it is not feasible for the Extended Market Index Fund to invest in each stock in the index. Barclays holds the stocks of all the companies in the Wilshire 4500 index with market capitalizations greater than \$1 billion. These companies represent approximately 76% of the market value of the index.

For stocks with market capitalization below \$1 billion, Barclays uses a sampling technique to select stocks based on the market value of the stock of a company relative to the market value of other companies in the Wilshire 4500 index. Barclays invests in these stocks based on size and industry group to match the index industry weights, excluding the most illiquid stocks. Within each industry group, Barclays selects stocks that, as a whole, are designed to produce a return that is very close to the Wilshire 4500 index. The performance of the Extended Market Index Fund is evaluated by comparing how closely its returns match those of the Wilshire 4500 index. A portion of Extended Market Index Fund assets is reserved to meet the needs of daily client activity. This liquidity reserve is invested in S&P 400 and Russell 2000 (other broad equity indexes) futures contracts.

The S Fund invests in the Barclays Extended Market Index Fund by purchasing shares of the Barclays Extended Market Index Fund "E", which in turn holds shares of the Barclays Extended Market Index Master Fund. As of December 31, 2000, the Extended Market Index Fund "E" held \$1.4 billion of the Extended Market Index Master Fund, which itself held \$11.2 billion of securities.

By law, the I Fund must be invested in a portfolio designed to track the performance of an index that includes common stocks the aggregate market value of which represents the international equity markets, excluding the U.S. equity markets. The Board has chosen the Europe, Australasia, and Far East (EAFE) index, which tracks the overall performance of the major companies and industries in the European, Australian, and Asian stock markets. The objective of the I Fund is to match the performance of the EAFE index. The I Fund is invested in the Barclays EAFE Index Fund, which tracks the EAFE index.

As prices of the stocks of the companies in the EAFE index rise and fall, the EAFE index and the I Fund will rise and fall. In addition, the EAFE index and the I Fund returns will rise and fall as the value of the U.S. dollar fluctuates relative to the value of the currencies of the countries represented in the EAFE index. At times, the effect of currency movements may be greater than stock price gains or losses or dividend income for particular countries or groups of countries. The stocks of the companies in EAFE trade on the stock exchanges of their respective countries, and the stock prices are expressed in the currency of each respective country. These stock prices are converted to U.S. dollars to determine the value of the EAFE index. For example, the stock of British Airways, a company included in the EAFE index, trades on the London Stock Exchange and is priced in the British pound sterling (§). If the price of British Airways stock is \$4, and the current exchange rate is \$1 = \$1.66, then the price of British Airways stock in U.S. dollars is \$6.64 (4 x \$1.66).

#### I Fund

If the value of the U.S. dollar rises relative to the currencies of the countries in EAFE, the prices of the stocks in EAFE, expressed in U.S. dollars, will fall, and consequently so will the value of the EAFE index. Using the previous example, if the U.S. dollar increases in value so that the new exchange rate is \$1 = \$1.50, the price in U.S. dollars of British Airways stock drops to \$6.00 (4 x \$1.50). Thus, even if the price of the stock does not fall on the country's stock exchange, the increase in the U.S. dollar causes the price of the stock, in U.S. dollars, to fall.

If the value of the U.S. dollar falls, the stock prices of the companies in the EAFE index, converted to U.S. dollars, will increase, resulting in gains in the value of the EAFE index. Again using the above example, if the U.S. dollar falls to an exchange rate of \$1 = \$1.75, the price of British Airways stock increases to \$7.00 (4 x \$1.75). The price of the stock may not change in the British stock market, but when the value of the U.S. dollar falls, the stock price, in U.S. dollars, increases.

The I Fund gives participants the opportunity to diversify their investments and to earn the relatively high investment return that stocks can provide over the long term while lessening the effect that the poor performance of an individual stock or industry will have on overall investment performance. The I Fund remains invested in the Barclays EAFE Index Fund regardless of conditions in the international stock markets or the value of the U.S. dollar relative to the currencies of the countries in the EAFE index.

The EAFE index, developed by Morgan Stanley Capital International (MSCI), is the most widely used international stock index. The EAFE index was designed by MSCI to provide broad coverage of the stock markets in the 20 countries represented in the index as of December 31, 2000. (Greece will be added as the 21st country on May 31, 2001.) For each country in the index, MSCI selects common stocks of companies that, in the aggregate, represent 60% of the market value of that country's stock market. As of December 31, 2000, there were 915 stocks in the EAFE index. Chart 15 lists the 20 countries in the EAFE index and the percentage of the index each one represents, as well as the number of companies from each country in the index. The percentage of the index is a weighted number, indicating both the proportion of the EAFE index exposed to that country's currency.

EAFE Index

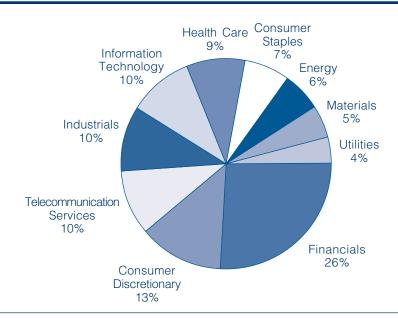
EAFE Index
Country Composition
December 31, 2000

Country	Percent of Total Value of Index	Number of Companies
Europe		
Austria	0.2	16
Belgium	0.9	17
Denmark	0.9	21
Finland	2.8	27
France	11.6	53
Germany	8.8	48
Ireland	0.6	14
Italy	4.8	40
Netherlands	5.7	23
Norway	0.4	24
Portugal	0.5	11
Spain	2.9	33
Sweden	2.7	33
Switzerland	7.2	36
United Kingdom	<u>21.3</u>	<u>113</u>
Europe	71.5%	509
Australasia/Far East		
Australia	2.7	57
Hong Kong	2.1	28
Japan	22.6	280
New Zealand	0.1	11
Singapore	<u>1.0</u>	<u>30</u>
Australasia/Far East	28.5%	406
EAFE Index	100%	915

Source: Morgan Stanley Capital International

MSCI selects the companies in the EAFE index based on several guide-lines: companies in the index reflect all the industry groupings in each local market; chosen stocks include a representative sampling of large, medium, and small-capitalization companies from each local market; and chosen stocks are actively traded. The EAFE index includes 23 industry groups covering the 10 economic sectors shown in Chart 16. Companies are selected to represent an industry based on size and the portion of earnings and revenues contributed to the industry group. MSCI's goal is to include companies that represent all the business segments within each industry group.

# **EAFE Index Economic Sectors December 31, 2000**



MSCI monitors the composition of the index and makes changes to ensure that companies in the index are representative of their industries and stock markets. MSCI will also make changes to the EAFE index because of mergers, acquisitions, and bankruptcies.

The EAFE index is based on the total market value of a country's stock market relative to the market value of the stock markets of the other countries in the index. In addition, the weights of the stocks in the EAFE index are based on each stock's total market value relative to the market value of other stocks of that country that are included in the index. Like the S&P 500, the EAFE index is considered a "big company" index containing large international companies, and the largest companies represent the largest portion of the index. As of December 31, 2000, the EAFE market value. The 20 largest companies in the index, as of December 31, 2000, are listed in Chart 17.

In December 2000, MSCI announced that it will be changing the composition of the EAFE index in two significant ways. First, the index weighting will no longer take into account the value of all of the outstanding shares of stock of the companies in the countries that are included in the index. Rather, it will take into account only the "free float" (i.e., freely traded) portion of each company's outstanding shares of stock. As a result, MSCI will adjust the value of each company's stock by subtracting "strategic holdings," which are shares that are not freely traded, including shares held by governments, controlling shareholders and their families, company management, and other companies.

Second, MSCI will increase from 60% to 85% the portion of each country's "free float adjusted" stock market value which will be included in the index. The changes to the index are scheduled to be implemented in two phases: the first phase to be implemented on November 30, 2001, and the second phase on May 31, 2002. The changes announced by MSCI are expected to cause some additional trading costs to be incurred by the Barclays EAFE Index Fund. Barclays will take appropriate steps to minimize the impact of the MSCI changes.

Most of the companies in the EAFE index pay dividends. The dividend yield (dividends divided by current market price) for the EAFE index as of December 31, 2000, was 1.7%. This means that, at December 31 market prices, annual dividend income equalled approximately 1.7% of the market value of the EAFE index. Of course, the dividend yield varies with stock prices. Assuming relatively stable dividend payments, the dividend yield will rise when stock prices fall and decline when stock prices rise. Thus, dividend income provides a cushion when EAFE stock prices are dropping.

## Chart 17 Largest Companies in the EAFE Index December 31, 2000

(Based on the total market value of the company relative to the total market value of the index)

Rank	Company	Country	Percent of Total Value of the EAFE Index	Cumulative Percent
1	Vodafone Group	United Kingdom	2.52	2.52
2	Nokia Corporation	Finland	2.33	4.85
3	BP Amoco (British Petroleum)	<b>United Kingdom</b>	2.03	6.88
4	GlaxoSmithKline	United Kingdom	1.96	8.84
5	HSBC Holdings (GB)	United Kingdom	1.51	10.35
6	Royal Dutch Petroleum Co.	Netherlands	1.46	11.81
7	Novartis	Switzerland	1.42	13.23
8	Toyota Motor Corporation	Japan	1.33	14.56
9	Total Fina Elf	France	1.23	15.79
10	NTT Corporation	Japan	1.04	16.83
11	Nestlé	Switzerland	1.03	17.86
12	Allianz	Germany	1.02	18.88
13	Deutsche Telekom	Germany	1.02	19.90
14	Ericsson (LM) B	Sweden	1.00	20.90
15	Astrazeneca Avis Europe	<b>United Kingdom</b>	0.99	21.89
16	France Telecom	France	0.99	22.88
17	Ing Groep	Netherlands	0.87	23.75
18	Siemens	Germany	0.87	24.62
19	Telefonica	Spain	0.82	25.44
20	UBS	Switzerland	0.81	26.25
Source: M	organ Stanley Capital International			

Barclays EAFE Index Fund — The EAFE Index Fund holds common stocks of all the companies represented in the EAFE index in virtually the same weights as they are represented in the EAFE index. A portion of EAFE Index Fund assets is reserved to meet the needs of daily client activity. This liquidity reserve is invested in a combination of certain national equity index futures contracts of the countries in the index, including, for example, FTSE 100 (United Kingdom), DAX (Germany), CAC 40 (France), ALL ORDS (Australia), Nikkei 300 (Japan), and Hang Seng (Hong Kong) index futures contracts.

The I Fund invests in the Barclays EAFE Index Fund by purchasing shares of the Barclays EAFE Index Fund "E", which in turn holds shares of the Barclays EAFE Index Master Fund. As of December 31, 2000, the EAFE Index Fund "E" held \$226.0 million of the EAFE Index Master Fund, which itself held \$19.5 billion of securities.

#### G, F, C, S, and I Fund Earnings Components of Earnings

The Board calculates earnings separately for each of the TSP investment funds. G Fund earnings consist entirely of the interest earned in the G Fund. F, C, S, and I Fund earnings each consist of the components shown in Chart 18 and described in this section.

Capital gain or loss — The F, C, S, and I Funds' capital gain or loss includes the net change in the prices of the notes and bonds held in the Barclays U.S. Debt Index Fund, and the stocks held in the Barclays Equity Index Fund, Barclays Extended Market Index Fund, and Barclays EAFE Index Fund, respectively, from the previous period's prices, as well as any gain (or loss) on their sale, net of trading costs charged to the respective index funds. The change in the prices of the stocks in the EAFE Index Fund also includes the change in the value of the U.S. dollar relative to the value of the currencies of the countries in the EAFE index.

The F, C, S, and I Funds also experience gains (or losses) on the sale of shares of their related Barclays index funds. The funds may be charged trading costs in connection with the purchase or sale of Barclays index fund shares. These trading costs reduce the amount invested in the index funds, thus reducing gains or increasing losses.\*

<sup>\*</sup>Because of the large size of the Barclays index funds in which the TSP funds are invested, purchases or sales of index fund shares may be partially or fully exchanged with shares being bought or sold by other clients. Such exchanges serve to reduce trading costs.

### Sources of G, F, C, S, and I Fund Earnings

	G Fund	F Fund	C, S, and I Funds
Gross Earnings	Interest	Capital gain/loss (net of trading costs)	Capital gain/loss (net of trading costs)
		Interest on notes and bonds	Dividends
		Interest on short- term investments	Interest on short- term investments
		Securities lending income	Securities lending income
- Expenses	TSP expenses	TSP expenses	TSP expenses
		Management fees	Management fees
= Net Earnings	Net Earnings	Net Earnings	Net Earnings

**Interest/dividend income** — Barclays credits interest income to the U.S. Debt Index Fund each business day. Barclays also credits dividend income each business day to the Equity Index Fund, Extended Market Index Fund, and EAFE Index Fund, respectively. The interest and dividend income is included in the share prices of the funds.

**Interest on short-term investments** — Before F, C, S, and I Fund contributions are transferred to Barclays for investment in the related Barclays index funds, they are invested temporarily in the same U.S. Treasury securities issued to the G Fund and earn interest on these investments. Similarly, money pending disbursement from the TSP is invested in G Fund securities. Barclays also temporarily invests money received from the TSP in a short-term investment fund before depositing it in each index fund. Interest from all of these short-term investments is added to the F, C, S, and I Fund earnings.

Securities lending income — Securities lending income comes from the short-term lending of the notes and bonds (F Fund) or stocks (C, S, and I Funds) held by the related index funds to a select group of brokers. The brokers put up collateral, primarily cash and Treasury securities, exceeding the market value of the securities. The collateral is monitored for the life of the loan to ensure that its value does not fall below 102% (105% for I Fund stocks) of the market value of the borrowed securities. The cash collateral is invested in short-term money market instruments and in certain other short-term investments, such as interest rate swaps. These investments generate income which is included in the share price of the related fund (or credited against management fees for the related fund).

**Administrative expenses** — G, F, C, S, and I Fund monthly earnings are reduced by each fund's proportionate share of TSP administrative expenses. F, C, S, and I Fund earnings are also reduced by Barclays' investment management fees. The result is net earnings, which are allocated to participants' accounts each month. (For more information on administrative expenses, see pages 42 – 43.)

# Comparing F, C, S, and I Fund Performance with Index Performance

The F, C, S, and I Fund returns vary from the returns of the indexes they track (i.e., the LBA index, S&P 500 index, Wilshire 4500 index, and EAFE index, respectively) for four reasons. First, F, C, S, and I Fund returns are shown after TSP accrued administrative expenses, investment management fees, and trading costs have been deducted. The index returns are shown without any expenses.

Second, F, C, S, and I Fund contributions awaiting transfer to the investment manager are invested in G Fund securities. Similarly, money pending disbursement from the TSP is invested in G Fund securities. The interest earned may result in slight differences between the F, C, S, and I Fund returns and the index returns.

Third, there may be differences in returns between the Barclays index funds in which the F, C, S, and I Funds are invested and the underlying indexes.

Fourth, the F, C, S, and I Fund monthly returns are dollar-weighted. This means that monthly returns reflect net earnings on the changing balances invested during the month. Because there generally is more money invested in the F, C, S, and I Funds at the end of the month, the monthly returns are weighted towards the stock and bond market returns occurring in the latter part of the month. The index returns are time-weighted. This means they assume constant dollar balances throughout the month.

Each month the Board publishes the returns for the G, F, C, S, and I Funds for the most recent 12 months. The monthly returns assume unchanging balances from month to month except for the crediting of earnings. The last 12-month returns represent the return on the money in your account which was invested in the fund for the entire 12-month period. (Appendix 3 describes how the Board calculates the period and compound annual returns shown in the TSP publications.)

#### Earnings Calculation

The monthly rates of return for each fund are calculated by dividing the net earnings by the amount in each fund entitled to receive earnings for that month (the prior month-end balance plus one-half the current month's contributions and loan payments). The rates of return are then applied to all participant accounts. They are applied to a participant's prior month-end balance (for each fund in which the participant has invested) plus one-half of the sum of his or hercurrent month's contributions and loan payments to that fund. The participant's entire account balance at the start of each month (prior month-end balance) receives

full credit for that month's earnings. Contributions and loan payments for the current month are divided in half because all contributions to an account are credited for half a month, regardless of when the record keeper received them during the month. Because contributions and loan payments are received and invested throughout the month, they are invested in the G, F, C, S, and I Funds for varying lengths of time during the month in which they are processed. To treat all participants equally and consistently, the earnings allocation calculation assumes that one-half of the amount of each contribution or loan payment credited during the month is invested for the full month.

You can check the monthly net earnings credited to your account by multiplying the rate of return for the month by your prior month-end balance plus one-half the sum of your contributions and loan payments for the current month. A step-by-step explanation of this procedure is presented in the TSP Fact Sheet "Calculating Participant Earnings on TSP Investments" in Appendix 5. Although that Fact Sheet refers only to the G, F, and C Funds, the same principles apply to the S and I Funds.

#### Sources of TSP Investment Performance Information

There are several sources of information about the performance of the TSP funds: the *TSP Highlights*, the ThriftLine, the TSP Web site, and the TSP Fact Sheet on G, F, C, S, and I Fund Monthly Returns.

You receive a 10-year history of G, F, C, S, and I Fund performance in the *TSP Highlights*, which is sent with your semiannual participant statement (in May and November).

You can also obtain monthly TSP rates of return from the ThriftLine. The ThriftLine provides the returns for the most recent month and the most recent 12-month period for the G, F, C, S, and I Funds. The information is generally updated by the 4th business day of the month. The telephone number of the ThriftLine is (504) 255-8777 (not a toll-free number). You can obtain the current and historical rates of return from the TSP Web site at www.tsp.gov.

Your agency can provide you with a copy of the TSP Fact Sheet "G, F, C, S, and I Fund Monthly Returns." The Fact Sheet also provides the returns for the last 12 months and the annual returns for the past 5 years. A sample Fact Sheet relating to the G, F, and C Funds is provided in Appendix 4. The new Fact Sheet for the G, F, C, S, and I Funds will not include the related index returns. However, those returns will be available in the Rates of Return section of the TSP Web site.

At the beginning of each month, the Board announces the statutory G Fund interest rate for the month. The G Fund interest rate announced at the beginning of each month is the statutory interest rate expressed on a *per annum* basis, that is, the rate that you would receive if your G Fund investments were invested at that rate for one year. You can estimate the monthly G Fund return by dividing the annual rate by 12, for

example,  $6.0\% \div 12 = .50\%$ . The interest rate is not adjusted for administrative expenses or compounding (or the method used to allocate earnings to participant accounts). In contrast, the monthly returns contained on the ThriftLine or in the Fact Sheet represent the actual returns, after expenses, on your investments in the G Fund for that month.

You can follow the performance of the indexes that the F, C, S, and I Funds track in a number of ways. Although the **LBA index**, which the F Fund tracks, is not published explicitly in newspapers, you can use other published information to track it. In Section C of *The Wall Street Journal*, there is a table called Bond Market Data Bank. The last section of the Major Indexes listing is "Broad Market." The "Domestic Master" line in this section is representative of the performance of the LBA index.

The **S&P 500 index**, which the C Fund tracks, is published in most daily newspapers, as well as on the S&P Web site at www.spglobal.com. The daily S&P 500 index values do not include the reinvestment of dividends. As a result, the C Fund returns, which do include the reinvestment of dividends, will be higher than the returns calculated using the published S&P 500 index values. The S&P Web site also provides the daily, monthly, last 12-month, and year-to-date returns for the S&P 500 index, as well as a list of the 500 companies in the S&P 500 index.

The **Wilshire 4500 index**, which the S Fund tracks, is not published in most newspapers, but you can follow its monthly performance on the Wilshire Web site at www.wilshire.com/indexes/last\_month.htm.

The **EAFE index**, which the I Fund tracks, is published on the Morgan Stanley Web site at www.mscidata.com. The EAFE index value for the previous business day is updated on the Web site each morning. The EAFE index values are also available in *The Wall Street Journal*. In the Markets Diary table in Section C, the "MSCI EAFE" line in the "International Stocks" section provides the preliminary estimate of the closing EAFE index value for the previous business day. The actual closing index values are available the following business day in the Foreign Markets section in Section C. The "EAFE MSCI" line in the table called Morgan Stanley Indexes represents the actual closing index values. Thus, there is a 2-day lag before the actual EAFE index value is provided in *The Wall Street Journal*.

The I Fund returns will differ from the returns calculated using the EAFE index values published in *The Wall Street Journal*. The EAFE index values provided in *The Wall Street Journal* do not include the reinvestment of dividends and do not take into account the foreign ownership limits imposed by certain countries on some stocks in the EAFE index.

### **III. TSP Operations**

#### Monthly Valuation

The TSP is a monthly valued plan, which means that the value of the assets in your account is determined once a month, as of month end. Your account is valued through the crediting of earnings. Once earnings are credited to your account, a variety of other transactions, including loans, withdrawals, and interfund transfers, can take place. Money can only be removed or transferred among the G, F, C, S, and I Funds after your account has been valued. Because account values are only known as of month-end, disbursements and interfund transfers cannot occur until earnings have been allocated and the value of accounts is known.

On the month-end valuation date (the last business day of the month), the anticipated amount of cash needed for pending loans and withdrawals from the F, C, S, and I Funds is removed from the stock and bond markets to avoid market exposure (and possible losses) between month-end and the time the money is paid out to participants in the following month. The cash is removed from the stock and bond markets on the last business day of the month and invested in the G Fund until disbursement in the following month. The G Fund interest earned on anticipated loan and withdrawal amounts for the month in which loans and withdrawals are disbursed is allocated to all TSP participants.

The anticipated amounts associated with interfund transfer requests are also moved among the investment funds on the last business day of the month. The record keeper provides the Board with the amount of money moving in and out of the G, F, C, S, and I Funds. The net transfer amounts are included in the investments made in the U.S. Debt Index Fund, the Equity Index Fund, the Extended Market Index Fund, and the EAFE Index Fund on the last business day of the month.

The valuation of accounts, accomplished through the crediting of earnings, and the posting of the other transactions primarily occur during the monthly processing cycle. This approach ensures that participants remove or transfer only the amount available in their accounts. Removing money from an account or making interfund transfers as of any time other than the end of a month would result in the removal or transfer of unvalued, and thus incorrect, amounts. Thus, participants who had no such transactions would absorb partialmonth gains or losses attributable to the amounts withdrawn, loaned, or transferred.

All of the transactions processed during the monthly processing cycle, including earnings, affect account balances as of the end of the month preceding the month in which they are processed. They are shown on your participant statement as month-end transactions and are reflected in the month-end balance.

The month-end balance shown on your participant statement represents the current market value of your F, C, S, or I Fund investments at month-end. This balance is comparable to the amount obtained by multiplying the number of shares held in a mutual fund by the fund's current price per share. Thus, the monthly crediting of earnings increases the value of F, C, S, or I Fund investments just as a comparable crediting of earnings would increase the share price of a mutual fund. The month-end G Fund balance represents cumulative contributions and earnings in your account.

The value of TSP account balances is only known once a month, as of month-end. Therefore, there is only one account balance each month, and that is the month-end account balance shown on your participant statement and provided on the ThriftLine or the TSP Web site.

#### Monthly Processing Cycle

Although earnings are credited to participants as of month-end, the "monthly processing cycle," which allocates earnings and values accounts, does not occur until the first few days of the following month, after the final earnings reports for the F, C, S, and I Funds are received from the asset manager.

After earnings are credited and the value of each participant's account has been established, other transactions are processed. All transactions are processed based on the amount in the participant's account after earnings have been credited. The following transactions are processed after earnings in the monthly processing cycle:

Restored forfeitures and earnings
Earnings corrections
Adjustments
Forfeitures
Refunded excess deferrals
Court-ordered payments
Minimum distributions
Withdrawals
Loans
Interfund transfers

Month-end balances are calculated after processing the above transactions. Loan and withdrawal checks generally are mailed within 3 business days after the monthly processing cycle.

#### Investment Allocations

You have two ways to allocate (or distribute) your TSP account balance and contributions among the five funds: by making a "contribution allocation" or by making an "interfund transfer."

### Contribution Allocations

When you make a contribution allocation, you designate the way you want your contributions to be invested in the G, F, C, S, and I Funds. This allocation affects your payroll contributions, any agency matching and automatic contributions, and, if you have a TSP loan, any loan payments you make. It also affects any transfers (or rollovers) to your TSP account from other retirement plans. A contribution allocation does not affect the balance already in your account. You may make a contribution allocation directly with the TSP at any time using the TSP Web site, the ThriftLine, or Form TSP-50 (or TSP-U-50, for uniformed services), Investment Allocation, which is available from your personnel office or the TSP Service Office. A contribution allocation remains in effect until you change it.

All contributions to new accounts are automatically invested in the G Fund until the participant makes a contribution allocation to invest in the other funds.

Contribution allocations are ordinarily posted to your account within 2 business days after the request is received and will generally be applied to your next payroll contribution.

#### **Interfund Transfers**

An interfund transfer is the redistribution of your existing account balance among the five funds. An interfund transfer is a one-time transaction that involves only money that is already in your account. It does not affect the allocation of future contributions.

The TSP record keeper executes an interfund transfer only in response to your request. You can make an interfund transfer in any month that you wish; there is no annual limit on the number of transfers you can make. You request changes of the percentage of your account balance that you want invested in each of the five funds after the transfer is completed. You cannot request to have specific dollar amounts moved.

Interfund transfers are made as of the last business day of each month at the closing prices of the related index funds. Transfer requests received by the TSP record keeper by the 15th of the month will be effective as of the last day of that month. If the 15th day of the month falls on a weekend or holiday, the deadline will be the next business day. If an interfund transfer request is received after the deadline, the transfer will be made effective as of the end of the following month. After your transfer has been made, the TSP record keeper will send you a confirmation notice.

Before deciding to make an interfund transfer, you should consider carefully the advantages and risks involved in investing in each of the five TSP funds. The TSP is not responsible for investment results. You must acknowledge that you understand and accept the risks of investing in the F, C, S, or I Fund before you invest in any of these funds.

The Web site, www.tsp.gov, and the ThriftLine, (504) 255-8777, are the most efficient ways to request an interfund transfer. With the Web and ThriftLine, your request is recorded immediately, avoiding mailing time.

You can also submit Form TSP-50, or TSP-U-50, to the TSP Service Office at the address on the form. You can obtain the form from your agency or service or, if you have left Federal service, from the TSP Service Office.

# Administrative Expenses

Major expenses of the TSP include the development and operating costs of the TSP computer system and the TSP Service Office (both of which are managed by the TSP record keeper, the U.S. Department of Agriculture's National Finance Center, in New Orleans, Louisiana), as well as the printing and mailing of publications and participant statements. There are two sources of funds for operating the TSP. The first source is forfeitures of any non-vested Agency Automatic (1%) Contributions. (FERS employees who leave Federal service before they are vested in the TSP — generally before completing 3 years of Federal service — forfeit the Agency Automatic (1%) Contributions and earnings on those contributions.) The second source is investment fund earnings on participant and agency contributions.

Administrative expenses, after forfeitures, are deducted from the earnings of the G, F, C, S, and I Funds in proportion to their respective balances. Fees charged by Barclays for managing the F, C, S, and I Funds, as well as transaction costs incurred by the funds, are borne exclusively by the participants investing in each of the funds.

The effect of net administrative expenses on the rates of return of the five funds is measured by the expense ratio of each fund. The F, C, S, and I Fund expense ratios include management fees (but not trading costs, the effects of which are included in rates of return). Your share of TSP net administrative expenses is based on the size of your account balance.

The expense ratios for the G, F, and C Funds for 1988 – 2000 were:

	<b>G</b> Fund	F Fund	C Fund
1988	.34%	.30%	.29%
1989	.21%	.23%	.20%
1990	.11%	.13%	.13%
1991	.13%	.16%	.15%
1992	.13%	.15%	.14%
1993	.12%	.14%	.13%
1994	.10%	.12%	.11%
1995	.09%	.11%	.10%
1996	.08%	.10%	.09%
1997	.07%	.08%	.07%
1998	.06%	.08%	.07%
1999	.05%	.07%	.06%
2000	.05%	.07%	.06%

The 2000 G Fund expense ratio of .05% means that your 2000 G Fund earnings were reduced approximately \$0.50 for every \$1,000 of G Fund account balance. Similarly, your F and C Fund earnings were reduced approximately \$0.70 and \$0.60, respectively, for every \$1,000 of F and C Fund account balances.



#### G, F, and C Fund Rates of Return 1988 – 2000

The monthly G, F, and C Fund returns represent the actual total rates of return used in the monthly allocation of earnings to participant accounts. The returns are shown after deduction of accrued TSP administrative expenses. The F and C Fund returns also reflect the deduction of trading costs and accrued investment management fees.

Months	G Fund	F Fund*	C Fund
1988			
January** February March April May	.69%	(.06%)	(.20%)
	.62	.81	4.82
	.66	(.80)	(3.47)
	.68	(.46)	.73
	.71	(.63)	1.42
June July August September	.72	1.97	4.08
	.72	(.49)	(.24)
	.76	.33	(2.74)
	.76	2.07	4.12
October	.75	1.68	2.53
November	.68	(1.09)	(1.23)
December	.74	.31	1.78
Annual Return	8.81%	3.63%	11.84%
1989			
January	.76%	1.27%	7.14%
February	.67	(.68)	(2.51)
March	.78	.50	2.21
April	.75	2.05	5.14
May	.76	2.42	3.98
June	.70	3.19	(.58)
July	.69	2.06	8.83
August	.66	(1.48)	1.98
September	.68	.37	(.29)
October	.71	2.45	(2.33)
November	.65	.86	2.05
December	.67	.16	2.37
Annual Return	8.81%	13.89%	31.03%

<sup>\*</sup> From 1988 through 1990, the F Fund was invested in the Barclays Bond Index Fund, which tracks the Lehman Brothers U.S. Government/Corporate bond index.

Numbers in ( ) are negative.

<sup>\*\*</sup> The first F and C Fund investments in the Barclays Bond Index Fund and the Barclays Equity Index Fund respectively, occurred on January 29, 1988.

Months	G Fund	F Fund*	C Fund
1990			
January February	.68% .64	(1.38%) .21	(6.59%) 1.26
March	.72	.01	2.64
April	.71	(.94)	(2.52)
May	.76	2.80	9.44
June	.71	1.56	(.71)
July	.72	1.24	(.36)
August	.72	(1.42)	(8.65)
September	.73	.81	(4.85)
October	.76	1.32	(.46)
November	.70	2.15	6.36 2.72
December	.70	1.46	2.12
Annual Return	8.90%	8.00%	(3.15%)
1991			
January	.69%	1.15%	4.55%
February	.62	.86	7.07
March	.68	.67	2.40
April	.66	1.05	.18
May	.68	.57	4.30
June	.66	(.01)	(4.49)
July	.69	1.40	4.63
August	.69	2.12	2.37
September	.64	1.99	(1.63)
October	.62	1.09	1.39
November	.61	.89	(3.96)
December	.62	2.96	11.41
Annual Return	8.15%	15.75%	30.77%
1992			
January	.57%	(1.35%)	(1.89%)
February	.56	.66	1.29
March	.62	(.53)	(1.91)
April	.62	.67	2.91
May	.64	1.84	.49
June	.60	1.36	(1.45)
July	.60	2.00	4.11
August	.57 .54	1.00 1.15	(2.02) 1.15
September October	.54 .55	(1.30)	.42
November	.55 .56	.01	3.39
December	.58	1.54	1.21
Annual Return	7.23%	7.20%	7.70%

Months	G Fund	F Fund*	C Fund
1993			
January	.58%	1.88%	.86%
February	.49	1.73	1.35
March	.52	.41	2.09
April	.51	.67	(2.39)
May	.51	.10	2.66
June	.51	1.79	.32
July	.49	.55	(.38)
August	.49	1.72	3.78
September	.45	.26	(.76)
October	.47	.38	2.04
November	.45	(.84)	(.93)
December	.49	.52	1.20
Annual Return	6.14%	9.52%	10.13%
1994			
January	.51%	1.33%	3.40%
February	.43	(1.72)	(2.70)
March	.52	(2.45)	(4.39)
April	.56	(.81)	1.28
May	.60	(.02)	1.66
June	.59	(.24)	(2.47)
July	.62	1.97	3.27
August	.60	.13	4.11
September	.59	(1.47)	(2.44)
October	.65	(.10)	2.24
November	.64	(.23)	(3.62)
December	.68	.69	1.49
Annual Return	7.22%	(2.96%)	1.33%
1995			
January	.67%	1.98%	2.58%
February	.59	2.38	3.87
March	.62	.60	2.94
April	.60	1.38	2.94
May	.61	3.84	3.98
June	.53	.71	2.31
July	.55	(.23)	3.30
August	.56	1.21	.26
September	.53	.95	4.19
October	.54	1.28	(.36)
November	.51	1.49	4.38
December	.50	1.39	1.92
Annual Return	7.03%	18.31%	37.41%

#### Appendix 1 (4)

Months	G Fund	F Fund*	C Fund
1996			
January	.49%	.66%	3.41%
February	.46	(1.75)	.91
March	.54	(.68)	.97
April	.54	(.56)	1.47
May	.58	(.11)	2.56
June	.57	1.34	.38
July	.58	.27	(4.39)
August	.58	(.18)	2.07
September	.58	1.72	5.60
October	.58	2.21	2.74
November	.53	1.69	7.54
December	.53	(.93)	(1.97)
Annual Return	6.76%	3.66%	22.85%
1997			
January	.56%	.30%	6.22%
February	.51	.24	.79
March	.57	(1.11)	(4.13)
April	.58	1.49	6.00
May	.58	.94	6.07
June	.56	1.18	4.45
July	.57	2.69	7.94
August	.53	(.86)	(5.59)
September	.54	1.48	5.46
October	.54	1.45	(3.38)
November	.50	.46	4.61
December	.52	1.01	1.71
Annual Return	6.77%	9.60%	33.17%
1998			
January	.51%	1.28%	1.12%
February	.44	(.07)	7.20
March	.50	.34	5.11
April	.49	.52	1.00
May	.51	.95	(1.72)
June	.48	.85	4.05
July	.49	.21	(1.09)
August	.49	1.66	(14.47)
September	.44	2.36	6.33
October	.41	(.52)	8.19
November	.42	.56	6.04
December	.43	.30	5.76
Annual Return	5.74%	8.70%	28.44%

Months	G Fund	F Fund*	C Fund
1999			
January	.42%	.71%	4.19%
February	.38	(1.74)	(3.09)
March	.47	.54	3.99
April	.46	.29	3.86
May	.47	(.89)	(2.36)
June	.49	(.33)	5.54
July	.52	(.43)	(3.14)
August	.53	(.05)	(.50)
September	.51	1.15	(2.78)
October	.53	.38	6.34
November	.51	(.01)	2.00
December	.54	(.45)	5.90
Annual Return	5.99%	(.85%)	20.95%
2000			
January	.56%	(.34%)	(5.03%)
February	.53	1.22	(1.93)
March	.55	1.32	9.74
April	.52	(.29)	(2.98)
May	.54	(.03)	(2.05)
June	.53	2.07	2.44
July	.53	.89	(1.56)
August	.52	1.46	6.19
September	.49	.64	(5.27)
October	.51	.66	(.40)
November	.48	1.65	(7.87)
December	.48	1.86	.50
Annual Return	6.42%	11.67%	(9.14%)

# G Fund-Related Securities, LBA Index, S&P 500 Index, Wilshire 4500 Index, and EAFE Index Rates of Return 1988 – 2000

Year	G Fund-Related Securities	LBA Index	S&P 500 Index	Wilshire 4500 Index	EAFE Index
1988	9.19%	7.89%	16.61%	20.54%	28.25%
1989	9.01	14.53	31.69	23.94	10.36
1990	8.97	8.96	(3.10)	(13.56)	(23.59)
1991	8.26	16.00	30.47	43.45	12.19 <sup>°</sup>
1992	7.32	7.40	7.62	11.87	(12.22)
1993	6.23	9.75	10.08	14.57	32.68
1994	7.29	(2.92)	1.32	(2.66)	7.75
1995	7.10	18.47	37.58	33.48	11.27
1996	6.80	3.63	22.96	17.18	6.14
1997	6.80	9.65	33.36	25.69	1.55
1998	5.77	8.69	28.58	8.63	20.09
1999	6.03	(.82)	21.04	35.49	26.72
2000	6.42	11.63	(9.10)	(15.77)	(14.17)
1988 – 20 Compou Rate of F	nd Annual	8.52%	16.69%	14.22%	6.92%

Numbers in ( ) are negative.

#### **Calculation of Period and Compound Annual Returns**

The calculations for **period returns** (last 12-month returns) on the TSP Fact Sheet on G, F, C, S, and I Fund monthly returns and the **compound annual returns** shown in TSP publications are shown below.

#### **Period Returns**

Using the TSP Fact Sheet "G, F, C, S, and I Fund Monthly Returns," it is possible to calculate returns for any fund for any period of time. The following example shows the calculation of the 2000 C Fund return using the monthly C Fund returns from the Fact Sheet in Appendix 4.

Step 1 Convert percentages to decimals (move the decimal point 2 places to the left) and add 1. You must add "1" to the returns in Step 1 and multiply the resulting factors together in Step 2 to include the effect of monthly compounding. If you just add the returns together, you ignore the effect of compounding.

```
(5.03\%) = -0.0503 + 1 = .9497
January
             (1.93\%) = -0.0193 + 1 = .9807
February
              9.74% =
                         .0974 + 1 = 1.0974
March
April
              (2.98\%) = -0.0298 + 1 = .9702
              (2.05\%) = -0.0205 + 1 = .9795
May
June
              2.44\% = .0244 + 1 = 1.0244
July
              (1.56\%) = -0.0156 + 1 = .9844
August
              6.19\% = .0619 + 1 = 1.0619
September
              (5.27\%) = -.0527 + 1 = .9473
October
              (.40\%) = -.0040 + 1 = .9960
              (7.87\%) = -0.0787 + 1 = .9213
November
December
               .50% =
                         .0050 + 1 = 1.0050
```

**Step 2** Multiply the factors together:

```
.9497 \times .9807 \times 1.0974 \times .9702 \times .9795 \times 1.0244 \times .9844 \times 1.0619 \times .9473 \times .9960 \times .9213 \times 1.0050 = .9086
```

**Step 3** Subtract 1 and multiply by 100 to convert the product to a percentage:

$$(.9086 - 1) \times 100 = -.0914 \times 100 = -9.14\%$$

When calculating period returns, the Board uses the actual 8-decimal place returns used in the allocation of earnings, rather than the 2-decimal place returns shown on the Fact Sheet. Therefore, you may get slightly different results due to rounding.

#### **Compound Annual Returns**

The Board provides compound annual returns when showing investment performance for periods of years. The compound annual return represents the average annual return for the period. An example of the calculation using the S&P 500 index returns from 1991 through 2000 (see Appendix 1) is provided below.

Step 1 Convert percentages to decimals and add 1. (As with period returns, it is necessary to add "1" to the annual returns and multiply the resulting factors together to include the effect of compounding.) Calculating the simple average (adding the returns and dividing by 10) ignores the effect of compounding.

```
1991
             30.47% =
                        .3047 + 1 = 1.3047
1992
              7.62% =
                        .0762 + 1 = 1.0762
1993
             10.08% =
                        .1008 + 1 = 1.1008
1994
              1.32% =
                        .0132 + 1 = 1.0132
1995
             37.58\% = .3758 + 1 = 1.3758
1996
             22.96% =
                        .2296 + 1 = 1.2296
1997
             33.36\% = .3336 + 1 = 1.3336
1998
             28.58\% = .2858 + 1 = 1.2858
1999
             21.04\% = .2104 + 1 = 1.2104
             (9.10\%) = -.0910 + 1 = .9090
2000
```

**Step 2** Multiply the factors together:

$$1.3047 \times 1.0762 \times 1.1008 \times 1.0132 \times 1.3758 \times 1.2296 \times 1.3336 \times 1.2858 \times 1.2104 \times .9090 =$$
**4.9983**

**Note:** If you subtract 1 from the result of this step (4.9983 - 1 = 3.9983), and multiply by  $100 (3.9983 \times 100 = 399.83\%)$ , you get the cumulative return for the period.

**Step 3** Take the nth root (where n equals the number of years in the period) of the result of Step 2.

$$\sqrt[10]{4.9983} = 4.9983^{1/10} = 1.1746$$

**Step 4** Subtract 1 and multiply by 100:

$$(1.1746 - 1) \times 100 = 17.46\%$$

17.46% equals the compound annual return for the S&P 500 index as shown in Appendix 1. You may get slightly different results due to rounding.



#### C, F, and G Fund Monthly Returns

**January 8, 2001** 

Months	C Fund	S&P 500 Stock Index	F Fund	Lehman Brother Aggregate Bond Index	rs G Fund
1995 (Jan. – Dec.	.) 37.41%	37.58%	18.31%	18.47%	7.03%
1996 (Jan. – Dec.		22.96%	3.66%	3.63%	6.76%
1997 (Jan. – Dec.	,	33.36%	9.60%	9.65%	6.77%
1998 (Jan. – Dec.	•	28.58%	8.70%	8.69%	5.74%
1999 (Jan. – Dec.	,	21.04%	(.85%)	(.82%)	5.99%
2000					
January	(5.03%)	(5.02%)	(.34%)	(.33%)	.56%
February	(1.93)	(1.89)	$\hat{1.22}$	1.21	.53
March	$^{}9.74^{'}$	[9.78]	1.32	1.32	.55
April	(2.98)	(3.01)	(.29)	(.29)	.52
May	(2.05)	(2.05)	(.03)	(.05)	.54
June	2.44	2.47	2.07	2.08	.53
July	(1.56)	(1.56)	.89	.91	.53
August	6.19	6.21	1.46	1.45	.52
September	(5.27)	(5.28)	.64	.63	.49
October	(.40)	(.42)	.66	.66	.51
November	(7.87)	(7.88)	1.65	1.64	.48
December	.50	.49	1.86	1.86	.48
Last 12 Months	(9.14%)	(9.10%)	11.67%	11.63%	6.42%
Percentages in ( ) are no	egative.				

The C Fund is invested in the Barclays Equity Index Fund which tracks the S&P 500 stock index. The F Fund is invested in the Barclays U.S. Debt Index Fund which tracks the Lehman Brothers Aggregate bond index. The G Fund is invested in special issues of U.S. Treasury securities.

The monthly C, F, and G Fund returns represent net earnings for the month, after deduction of accrued administrative expenses. The C and F Fund returns also reflect the deduction of trading costs and accrued investment management

The C, F, and G Fund monthly returns are dollar-weighted: they reflect net earnings on the changing balances invested during the month. The C, F, and G Fund returns for the last twelve months assume, except for the crediting of earnings, unchanging balances (time-weighting) from month to month and assume earnings are compounded on a monthly basis.

The C and F Fund returns vary from the index returns because of C and F Fund expenses, changing balances in the C and F Funds, and differences in returns between the Barclays funds and the underlying indexes. The index returns are time-weighted: they assume constant dollar balances invested during each month and throughout the period.

Future performance of the three funds will vary and may be significantly different from the returns shown above. See the "Summary of the Thrift Savings Plan" for detailed information about the funds and their investment risks.



#### Calculating Participant Earnings on TSP Investments

This Fact Sheet has been prepared to help you calculate your monthly earnings as reported on your semiannual Thrift Savings Plan (TSP) Participant Statement. The TSP consists of three funds:

- Government Securities Investment (G) Fund
- Common Stock Index Investment (C) Fund
- Fixed Income Index Investment (F) Fund

Net earnings for each month are calculated separately for the G, C, and F Funds. Your share of the net earnings from each fund is credited to your account as of the last day of the month.\*

To calculate the earnings allocated to your account for any month, first add one-half of the deposits and loan payments for the month to your month-end balance for the preceding month. Then multiply that sum by the rate of return for the month you are calculating (as reported on your Participant Statement).

Loans and withdrawals affect your account for the calculation of earnings at the end of the month, but are disbursed in the middle of the following month. You do not receive any earnings on the amount of a loan or withdrawal for the month in which it was disbursed.

Interfund transfers are effective as of the last day of the month. Beginning with the following month, the amounts transferred receive earnings for the full month in the fund to which the money was moved.

As a guide to calculating your earnings, follow the steps in the example on the back of this Fact Sheet, which is based on G Fund rates of return. You can calculate earnings on C and F Fund investments in the same manner.

#### **Sample Participant Statement**

	Detail of G Fund Account Activity					
oll Pay e Date	Process Date	G Fund				
E APR 1995	(Beginning Balance)	15,000.00				
05/24/95	05/10/95 05/24/95	90.00 90.00 92.04 15,272.04				
06/21/95	06/07/95 06/21/95	90.00 90.00 81.41 15,533.45				
07/19/95	07/05/95 07/19/95	90.00 90.00 85.92 2,000.00 – 13,799.37				
016 08/16/95 016 08/30/95	08/03/95 08/17/95 08/30/95	90.00 90.00 90.00 78.03 3,405.65 – 10,741.75				
09/27/95 016	09/14/95 09/27/95 09/29/95	90.00 90.00 50.00 57.54 11,029.29				
016 10/25/95 016	10/11/95 10/25/95 10/31/95	90.00 90.00 50.00 60.17 11,319.46				
	Date  APR 1995  D16 05/10/95  D16 05/24/95  E MAY 1995  D16 06/07/95  D16 06/21/95  E JUN 1995  D16 07/15/95  D16 08/02/95  D16 08/30/95  E AUG 1995  D16 09/13/95  D16 09/27/95  D16 09/27/95  D16 10/11/95  D16 10/25/95	Date Date  D				

Pay date is the date reported by your payroll office for deposits. Process date is the date deposits and loan payments were processed to your account by the TSP recordkeeper.

payment summary

P = Monthly loan

#### G Fund Rates of Return\* May 1995 – October 1995

May	0.61%	August	0.56%
June	0.53%	September	0.53%
July	0.55%	October	0.54%

<sup>\*</sup>Actual rates of return after administrative expenses

E = Earnings

transfer

<sup>\*</sup> Net earnings for each fund consist of the earnings of the fund minus accrued administrative expenses. Expenses that are attributable only to the C and F Funds are charged solely to those funds. General TSP administrative expenses are reduced by forfeitures of the Agency Automatic (1%) Contributions from the accounts of nonvested participants covered by the Federal Employees' Retirement System (FERS) who have left Government service. The remaining expenses are charged to the three investment funds in proportion to their respective balances on the last day of the prior month.

## **Procedure to Calculate Earnings** on G Fund Contributions

May Calculation		August Calculation	
Calculate ½ May contributions:  Add May contributions  Divide sum in half	$\begin{array}{ccc} \$ & 90.00 \\ + & 90.00 \\ \hline & 180.00 \\ \vdots & 2 \\ \hline & 90.00 \end{array}$	Calculate ½ August contributions:  Add August contributions  Divide sum in half	\$ 90.00 90.00 + 90.00 270.00 \(\ddot\frac{2}{135.00}\)
Use April Month-End Balance Add ½ May contributions Multiply by May return <b>May earnings</b>	$ \begin{array}{r} 15,000.00 \\ + 90.00 \\ \hline 15,090.00 \\ \times 0.0061 \\ \$ 92.04 \end{array} $	Use July Month-End Balance Add ½ August contributions Multiply by August return <b>August earnings</b>	13,799.37 + 135.00 13,934.37 × 0.0056 \$ 78.03
June Calculation		September Calculation	
Calculate ½ June contributions:  Add June contributions  Divide sum in half  Use May Month-End Balance Add ½ June contributions  Multiply by June return  June earnings	\$ 90.00 + 90.00 180.00 $\div$ 2 90.00 15,272.04 + 90.00 15,362.04 $\times$ 0.0053 \$ 81.41	Calculate ½ September contributions and loan payments:  Add September contributions and loan payments  Divide sum in half  Use August Month-End Balance Add ½ September contributions and loan payments  Multiply by September return September earnings	$\begin{array}{c} \$ & 90.00 \\ 90.00 \\ + & 50.00 \\ \hline 230.00 \\ \vdots & 2 \\ \hline 115.00 \\ \hline 10,741.75 \\ + & 115.00 \\ \hline 10,856.75 \\ \times & 0.0053 \\ \$ & \textbf{57.54} \\ \end{array}$
July Calculation		October Calculation	
Calculate ½ July contributions:  Add July contributions  Divide sum in half	$\begin{array}{ccc} \$ & 90.00 \\ + & 90.00 \\ \hline & 180.00 \\ \vdots & & 2 \\ \hline & 90.00 \end{array}$	Calculate ½ October contributions and loan payments: Add October contributions and loan payments	\$ 90.00 90.00 + 50.00 230.00
Use June Month-End Balance Add ½ July contributions Multiply by July return <b>July earnings</b>	15,533.45 + 90.00 15,623.45 × 0.0055 \$ 85.92	Divide sum in half  Use September Month-End Balance Add ½ October contributions and loan payments  Multiply by October return  October earnings	$ \begin{array}{r} 230.00 \\                                  $

The *pro rata* share of monthly earnings that you calculate for your account may not equal your exact earnings. This is because your actual earnings are calculated using 8-decimal-place rates of return rather than the 2-decimal-place rates of return shown on your Participant Statement. Net earnings for individual accounts are then rounded down to the nearest penny, and the residual amounts are included in earnings to be allocated to all accounts the following month.

#### **Glossary**

**Account balance:** The sum of the dollar balances in each source of contributions in each investment fund for an individual account.

**Accrued interest:** Interest calculated on a fixed-income security, such as a bond, from the date of issue or from the last interest payment date to the present.

**Active management:** A term used broadly to describe investment managers whose strategy focuses on identifying and purchasing securities that are likely to perform better than the market average in the future.

**Asset allocation:** Choosing among asset classes such as stocks and bonds.

**Bond:** A debt security issued by a government entity or a corporation to an investor from whom it borrows money. The bond obligates the issuer to repay the amount borrowed on a stated maturity date and, traditionally, to pay interest at a fixed rate at regular, usually 6-month, intervals until maturity. Bonds generally have maturities of more than 10 years at the time they are issued.

Bond rating: The rating of corporate bonds according to their relative investment qualities. Bond ratings are performed by rating services such as Moody's Investors Service and Standard & Poors (S&P) Corporation. Ratings are based on a credit analysis of the issuer and measure the likelihood that the issuer will make interest and principal payments when due. The bonds rated in the top four categories, ranging from Aaa (Moody's) or AAA (S&P), to Baa3 (Moody's) to BBB- (S&P), are considered investment-grade bonds. Lower rated bonds are considered speculative and are sometimes referred to as "junk bonds." In determining whether securities are investment grade for purposes of inclusion in the LBA, Lehman Brothers will consider first the rating of Moody's; if none, then the S&P rating will be considered.

Capital gain (loss): The amount by which the sale price or current market price of a security exceeds (gain) or is less than (loss) the purchase price. A gain or loss is "realized" when the security is sold. However, in stock and bond funds, even unrealized gains and losses must be recognized and accounted for whenever the fund is valued.

**Capitalization:** The total stock value of a corporation's stock. Thus, the market capitalization of a corporation equals the current market price of its stock multiplied by the number of shares of stock outstanding. The capitalization of the S&P 500 is the sum of the capitalization values of all 500 corporations in the index.

**Collateral:** The property that a borrower pledges to secure a loan. Collateral may be liquidated to pay the lender if the borrower defaults.

Commercial mortgage-backed securities (CMBS): CMBS are issued by private corporations and are backed by commercial real estate mortgages. They are not guaranteed by agencies of the U.S. Government or Government-sponsored enterprises. The F Fund holds only the highest rated CMBS (rated Aaa by Moody's Investors Services or AAA by Standard & Poor's Corporation). CMBS were added to the Lehman Brothers

Aggregate Bond Index (LBA) in July 1999.

**Common stock:** Equity securities, issued as ownership shares in a publicly held corporation. Shareholders have voting rights and may receive dividends based on their proportionate equity holdings.

**Compound annual return:** The average annual return of an investment that includes the effect of compounding over a specified time period.

**Consumer Price Index (CPI):** The index calculated by the U.S. Bureau of Labor Statistics to represent the price of a specified group of goods for all urban consumers. Changes in the index measure the rate of inflation in the U.S.

**Contribution allocation:** The way contributions are being invested among the G, F, C, S, and I Funds. The contribution allocation applies to future contributions and loan payments, not to the existing account balance.

**Coupon rate:** The annual interest rate on the principal amount of a bond which the issuer promises to pay the bondholder.

**Credit risk:** The risk, generally associated with corporate bonds, that a borrower will default on a scheduled payment of principal and/or interest.

**Currency risk:** The risk that the value of a currency will rise and fall relative to the value of other currencies. Currency risk occurs with investments in the EAFE index because of fluctuations in the value of the U.S. dollar in relation to the currencies of the (soon to be 21) countries in the EAFE index. The change in the value of the U.S. dollar relative to the currencies of the countries in the EAFE index is included in the change in the daily EAFE index value, and therefore is included in the change in the Barclays EAFE Index Fund share prices and returns.

**Current yield:** The income received annually from an investment, usually as interest or dividends, expressed as a percentage of its market price. Yield should not be confused with total return. It can be misleading to focus on the yield of investments that do not have a fixed value, such as stocks, or of investments where the principal may be fixed but the market value can fluctuate, such as bonds.

**Default:** The failure of a bond issuer to pay interest or repay principal in full when scheduled.

**Diversification:** Spreading investments among different securities types, issuers, industries, and/or geographic regions to reduce exposure to any one source of investment risk.

**Dividend:** A company's payment to common stock holders, usually quarterly. Unlike bond coupon payments, stock dividends are not obligatory. Generally, dividends represent a portion of corporate earnings and, in the long term, are dependent on the business or economic success of the corporation.

**Dividend yield:** Dollar amount of dividends per share divided by the current price per share of common stock.

**Dollar cost averaging:** The practice of investing a fixed amount of money in a security or in a fund at regular intervals regardless of market conditions.

**Dollar-weighted return:** The rate of return calculated by taking the sum of dividend or interest income and capital gains (or losses) minus expenses for a period, and dividing that sum by the average amount invested during the period.

**EAFE (Europe, Australasia, Far East) index:** An index created by Morgan Stanley Capital International designed to provide broad coverage of the European, Australian, and Asian stock markets. The EAFE index is the most widely used international stock index. The I Fund tracks the EAFE index.

**Expense ratio:** A fund's total expenses, usually for a year, including management fees if applicable, divided by average fund assets during the period.

**Exposure:** The risk of gain or loss resulting from changes in the prices of securities and changes in currency exchange rates. Refers to interest rate exposure in the case of the F Fund, general stock market exposure in the case of the C, S, and I Funds, and currency exposure in the case of the I Fund.

**Federal agency securities:** The collective term for securities issued by the two broad categories of Federal agencies — those that are a part of the Federal Government and those sponsored by it but owned privately — to raise capital for specific sectors of the economy, such as housing, agriculture, and education.

Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac): A stockholder-owned corporation established by Congress in 1970 to increase the availability of mortgage money for home buyers. It buys mortgages from a variety of lenders so lenders can use the funds to make new mortgages. FHLMC replenishes its cash by issuing mortgage-backed securities, which it guarantees.

Fannie Mae: Established by Congress in 1938 (and converted to a stockholder-owned corporation in 1968) for the purpose of providing mortgage credit for low- to middle-income home buyers by raising funds in securities markets. Fannie Mae provides liquidity to the mortgage market through guarantees on pools of mortgage loans originated by various lenders.

**Fixed-income securities:** Notes, bonds, and similar debt instruments. Although the interest they pay is a fixed amount, the market values of the securities are not. Market values or prices fluctuate and, therefore, so do their yields and total returns. As interest rates rise, the value of fixed-income securities falls; when interest rates fall, the value of fixed-income securities rises. (See *market risk*.)

Government National Mortgage Association (GNMA or Ginnie Mae): Established in 1968 as a Government corporation within the U.S. Department of Housing and Urban Development to increase liquidity in the secondary market for Government-backed residential mortgages through the securities market. GNMA originated mortgage-backed securities (MBS) with its guaranty program in 1970. GNMA MBSs are issued by approved private lenders, collateralized by Federal Housing Authority (FHA)-insured and Veterans Administration (VA)-guaranteed mortgages, and backed by the full faith and credit of the United States.

**Index:** Generally, a number calculated to be a measure or indicator of performance over time of the prices of categories or groups of securities, or of trends in the values of economic variables, such as inflation.

**Indexing:** The practice of assembling a portfolio of securities with the goal of achieving an investment return equal or similar to the return of a target index, such as the S&P 500.

**Index fund:** A fund that attempts to match the investment return of a market index, such as the S&P 500, by holding securities in proportion to their representation in the index, or by holding a sample of the securities designed to match the performance of the overall index.

**Interest rate:** The annual rate of return payable as interest on the face value of a fixed-income security.

**Interfund transfer:** A redistribution of the existing TSP account balance among the investment funds. Interfund transfers do not affect the allocation of future contributions and loan payments.

**Investment-grade bond:** A bond receiving one of the top four ratings from a well-known rating service (i.e., Baa3 or higher from Moody's Investors Service, BBB– or higher from Standard & Poor's Corporation).

Lehman Brothers U.S. Aggregate Bond Index (LBA): An index including all publicly issued, nonconvertible, fixed-rate domestic debt, with at least 1 year to maturity and an outstanding par value of at least \$150 million. The index includes a U.S. Government sector (including securities issued by the U.S. Treasury and by Government-sponsored enterprises, such as the Federal Home Loan Bank System and the Federal Farm Credit Bank System); a corporate sector (including investment-grade securities of both U.S. and non-U.S. corporations issued in the U.S.); a mortgage-backed securities sector (including all fixed-rate mortgagebacked securities guaranteed by GNMA, Fannie Mae, and FHLMC, as well as commercial mortgage-backed securities (CMBS) rated at least Aaa by Moody's or AAA by S&P); and a foreign government sector (including U.S. dollar-denominated securities traded in the U.S. that are issued or guaranteed by foreign or international entities (sovereigns, multilateral lending institutions, foreign agencies, and foreign local governments).

**Market:** A general reference to the interaction of investors, brokers, and dealers in buying and selling securities. The term "market" often refers to the secondary market where most trading takes place, as opposed to the primary or original issue market.

**Market price or market value:** The price at which a security can be purchased or sold at a given time. Generally, the current price a securities broker, dealer, or other investor is willing to pay for a security.

**Market risk:** The characteristic of fixed-income securities whereby prices decline when interest rates rise and prices rise when interest rates decline. Market risk, also referred to as volatility, is greater with longer-term securities. Market risk also refers to price fluctuations in stocks.

**Maturity:** The length of time from issue date until the date on which an issuer is obligated to repay the principal of a fixed-income security.

**Money market:** The market in which short-term debt instruments (Treasury bills, commercial paper, certificates of deposit, etc.) are issued and traded.

Mortgage-backed securities (MBS): Securities designed to attract additional capital resources for residential mortgages through the securities markets. A typical MBS represents an interest in a pool of millions of dollars of conventional or Government-backed mortgages. MBS investors receive a monthly "pass-through" of principal and interest payments, as well as unscheduled principal payments from home owners who prepay their mortgages, and the principal of foreclosed mortgages. The LBA, which the F Fund tracks, includes fixed-rate mortgage-backed securities guaranteed by GNMA, Fannie Mae, and FHLMC. It also includes commercial mortgage-backed securities (CMBS).

**Mutual fund:** The popular designation for an investment company that pools the money of investors for investment in a professionally managed portfolio of securities.

**Nonmarketable security:** A security that cannot be resold to other investors. For example, various Treasury obligations, including G Fund securities and U.S. Savings Bonds, are issued by the Treasury Department to specific investors. The Treasury will redeem the security in accordance with its terms, but the security cannot be resold to another investor.

**Par value:** The principal amount an issuer will repay at maturity. The current market price of a bond may be higher or lower than the par value.

**Passive management:** Generally, buying and holding a securities portfolio designed to represent a broad market index. Passive strategies usually do not attempt to identify and buy only securities thought to offer exceptional future performance possibilities. Passive strategies are often based on the premise that it is difficult, if

not impossible, to forecast future trends accurately in securities prices. Management fees and trading costs are generally lower in passively managed funds than in actively managed funds. The index funds in which the F, C, S, and I Funds invest are passively managed.

**Principal:** The face amount, the amount borrowed, or the par value of a debt security.

**S&P 500 index:** The Standard & Poor's Corporation common stock index of 500 industrial, financial, utility, and transportation companies. The S&P 500 is an equity market index commonly used by institutional investors and retirement plan sponsors. The C Fund tracks the S&P 500 index.

**Securities:** General term for a variety of financial instruments, including stocks and bonds.

**Share:** A unit of ownership of common stock of a corporation or in an investment fund.

**Short-term securities:** Usually refers to securities purchased by money market funds with maturities of one year or less.

**Time-weighted return:** Return of an investment for any period that includes the effect of compounding. Assumes a fixed amount was invested for the entire period and excludes the effect of new investments or withdrawals during the period.

**Total return:** The growth (or decline) in the value of an investment, calculated to include capital gains or losses, all income, reinvestment of income, and currency gains or losses. It is the most comprehensive and meaningful measure of performance for comparing various

investments. Total return should not be confused with coupon rates or current yields, which are generally not as useful in comparing investments. Total returns covering a number of periods are usually expressed as compound annual returns.

**Trading costs:** The costs involved in purchasing or selling a security.

**Treasury bill:** A U.S. Treasury security maturing in one year or less from its issue date. When purchased at prices below face value (i.e., at a discount), Treasury bills do not pay interest as such. An investor's return is the difference between the price paid when the bill is purchased and the proceeds received when the bill matures.

**Treasury bond:** A U.S. Treasury security, maturing more than 10 years from its issue date. Interest is paid semiannually.

**Treasury note:** A U.S. Treasury security, maturing from 2 to 10 years from its issue date. Interest is paid semi-annually.

**Volatility:** The variability of prices of securities over a period of time. The more the price of a security fluctuates, the greater is the volatility of that security. Securities with the greatest volatility generally are considered the riskiest investments.

**Wilshire 4500 index:** Wilshire Associates' index of all U.S. common stocks (excluding the stocks in the S&P 500 index) actively traded in the stock markets on a daily basis. The S Fund tracks the Wilshire 4500 index.

